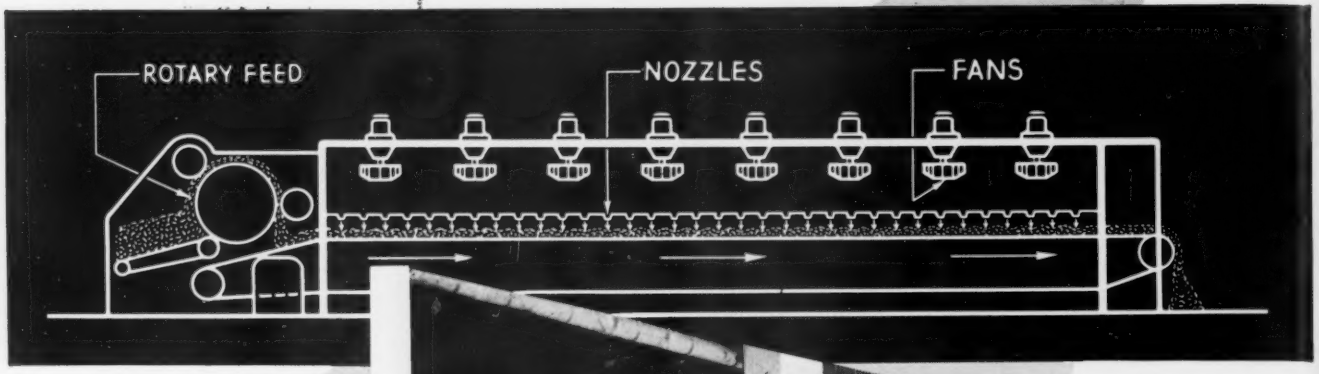
# TEXTILE WORLD

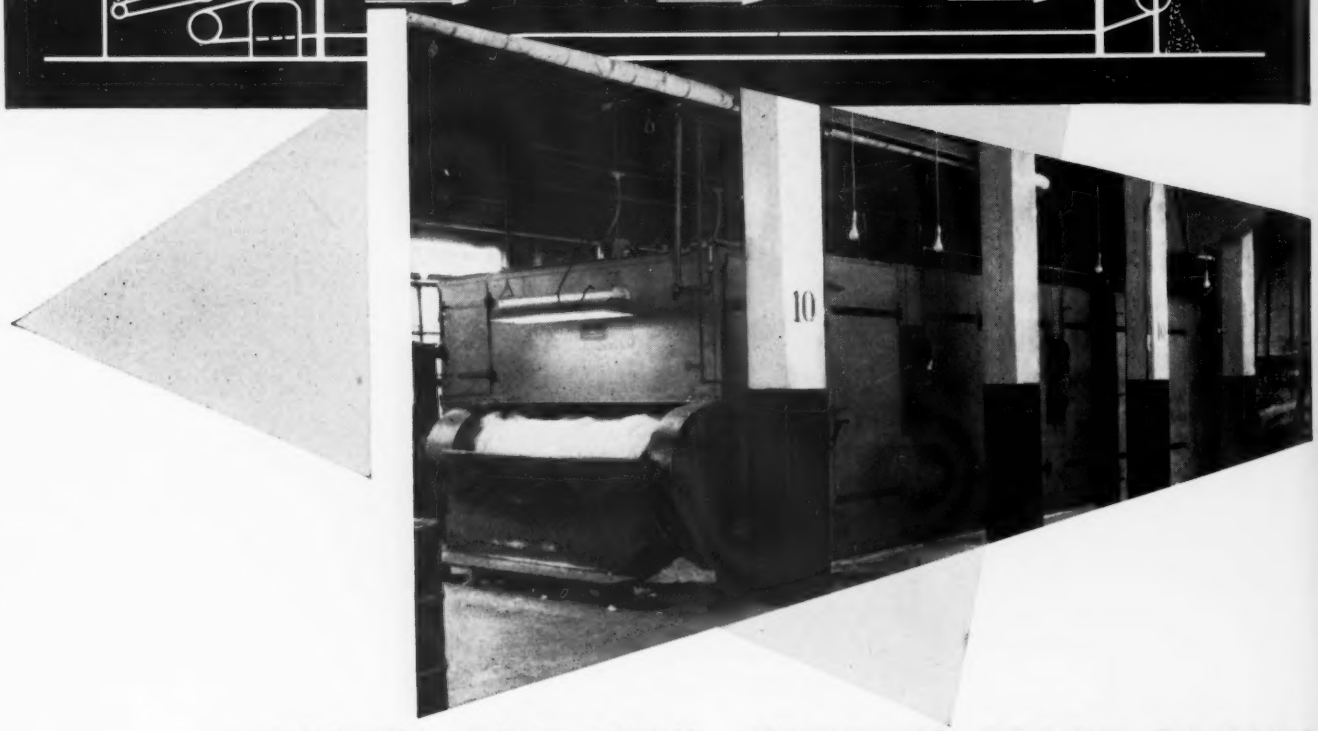
A McGraw-Hill Publication ---------- OCTOBER • 1947

## Typical FINISHING RANGES

Page 106

# IMPACT PRINCIPLE'S "Breathing Action"




## ASSURES THOROUGH, UNIFORM STOCK DRYING

The patented features of design that make possible the "breathing action" of Proctor impact drying, assure you the best possible results when it comes to drying cotton or wool stock or other fibrous materials. Stock dried in the Proctor impact type dryer is carried through the drying chambers on either a woven wire or perforated metal plate continuous conveyor. Heated air, at high velocity, is intermittently impinged against the bed of stock on the conveyor as it moves through the dryer. As the material is subjected to the impingement of air, it compresses and as it passes between one jet of air and the next, it expands, in a breathing-like action, as can be seen from the longitudinal view above. This movement—or "breathing action"—permits heated air to circulate all the way through the bed of material and promotes the uniform, thorough and rapid drying possible with this Proctor impact system. The temperatures within the dryer, as well as the velocity of the air circulation to which the stock is subjected, can be varied to suit the particular requirements of the material being dried. Considered from every angle, impact drying, with its "breathing action", is the ideal method for the correct drying of fibrous materials. If stock drying is a part of your plant operation, write today, telling us as much about your problem as possible. Our engineers will gladly show you how the Proctor impact dryer can fit into your production line.

## PROCTOR & SCHWARTZ, INC.

PHILADELPHIA 20, PA.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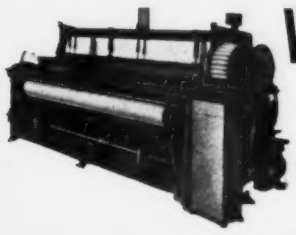
DETROIT

HIGH SPEED XL MODEL
WIDE LOOM



WEAVES
AMERICA'S
FINEST
SHEETS

Retaining Leadership Through Research

DRAPER CORPORATION

Constant head tank assures delivery of *Texspray Compound* at uniform pressure to all units in the room.

THE TEXACO method of fibre conditioning with *Texspray Compound* offers two important and exclusive advantages:

1. Application is made in the beater chamber—thus assuring economy of application to clean stock only.
2. Texaco's patented applicator applies the *Texspray Compound* by direct contact—a wiping action that assures uniform application, with no fire hazard.

These exclusive Texaco advantages add up to smoother, stronger yarn, with more long staple and more uniform count. In addition, Texaco fibre conditioning reduces static and "eyebrows," makes stripping easier, and improves working conditions by sharply reducing fly and dust.

Users of *Texspray Compound* have grown steadily in number over the past 10 years. If your mill is located anywhere in the principal textile areas of the U. S. you can join them in the benefits they are receiving. Just call the nearest of the more than 2500 Texaco distributing plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, New York.

Write today for your copy of this 20-page, illustrated book, "FIBRE CONDITIONING WITH TEXSPRAY COMPOUND"—and call on your local Texaco Lubrication Engineering Service to explain the plan under which the Texspray fibre conditioning system is installed, and its benefits to your mill.

TEXACO

REG. T.M.

# TEXACO Lubricants

## FOR THE TEXTILE INDUSTRY

Tune in...TEXACO STAR THEATRE presents the TONY MARTIN SHOW every Sunday night. See newspaper for time and station.

# TABLE OF CONTENTS

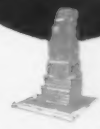
*Classified According to Reader Interest*

← MILL DEPARTMENTS — FIBER DIVISIONS →


| YARN PRODUCTION | WEAVING | KNITTING | FINISHING | ENGINEERING | MISCELLANEOUS | | PAGE | COTTON | SYNTHETICS | WOOL | MISCELLANEOUS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | **FEATURE ARTICLES** | | | | | |
| Y | W | K | F | E | M | A SCIENTIFIC Industry (Editorial) | 4 | C | S | W | M |
| Y | W | K | F | E | M | TRIangle of Research | 101 | C | S | W | M |
| | | | F | | | FINISHING RANGES Efficient and Flexible | 106 | C | S | | |
| | | K | F | E | | Hosiery Mill Has SEALED CONSTRUCTION | 112 | | S | | |
| | W | | | | | "MONOFILIZING" Aim of Rayon Slashing | 115 | | S | | |
| | | | | E | | COMPRESSED-AIR Systems Merit Attention | 116 | C | S | W | M |
| | W | | | E | | Cuts Time to Install LOOM PARTS | 118 | C | S | | |
| | | K | | E | | HANDLING SYSTEM Need Not Be Expensive | 120 | | S | | |
| | | | F | | | ELECTRONIC STRAIGHTENERS of Two Types | 123 | C | S | | |
| Y | | | | | | Staple Spins Well on WORSTED SYSTEM | 129 | | S | W | |
| | W | | | | | HOT-AIR SLASHER Installed at Avondale | 133 | C | S | | |
| Y | W | K | F | E | M | Skillful Publicity Aids LABOR SUPPLY | 135 | C | S | W | M |
| Y | | | | | | Fixers Should Know How to Set BUILDER | 139 | C | S | | |
| | | | F | E | | HANDLING AIDS for Extracting and Drying | 143 | C | | | |
| Y | | | | | | Fiber Properties Set COMBED-YARN QUALITY | 145 | C | | | |
| Y | W | K | F | E | M | MISSOURI Opportunity for Textile Development | 224 | C | S | W | M |
| | W | | F | | | Standard Daylight Lamps for COLOR MATCH | 234 | C | S | W | M |
| | W | | F | | | New Device Measures GEL STRENGTH | 234 | C | S | | |
| | | | F | | | Mechanized SCREEN PRINTING | 236 | C | S | | |
| | | | | | | **KINKS AND SHORT-CUTS** | | | | | |
| Y | | | | | | WINDER Aided by Slide-Rule Calipers | 154 | C | S | W | |
| | | K | F | | | Knitting Mill Has BRINE-HANDLING System | 156 | C | S | W | M |
| | | K | | | | Half-Hose MENDING ARM Uses Glass Cup | 156 | C | S | | |
| Y | | | | | | Set LICKERIN SCREENS With Adjustable Gage | 158 | C | S | | |
| | W | | | E | | OIL-CAN Spout Used to Raise Oil-Well Cap | 158 | C | S | W | M |
| | W | | | | | SHUTTLE-SPINDLE Spring Tightened | 158 | C | S | W | M |
| | | | F | | | Bemberg Printing Aided by GLYCERIN | 160 | | S | | |
| | | | F | | | Adjustments Check Pin Holes in SHEARING | 160 | C | S | W | |
| Y | | | | | | SPOOLER DRUM Laps Removed With Hook | 160 | C | S | | |
| | | | | E | | Aids for Rounding BENT PIPES | 160 | C | S | W | M |
| | | K | | | | Spring-Needle Machines Need NON-SKID STEP | 162 | C | S | W | M |
| | W | | | | | Third, Fourth SHUTTLES Run First, Second | 162 | C | S | W | M |
| Y | | | | | | Air-Deflector Plates Improve CARD Selvage | 162 | C | S | | |
| | | | | | | **IN OTHER DEPARTMENTS** | | | | | |
| Y | | | | | | SANDWICH BLEND Made Mechanically | 149 | C | S | W | M |
| | | | | E | | Open-End V-BELTING | 149 | C | S | W | M |
| Y | | | | | M | Fiber MOISTURE CONTENT Found by Tester | 149 | | | W | |
| | | | F | | | Cloth CONDITIONED by Evaporated Water | 150 | C | S | | |
| Y | | | | | | SLUB-CATCHER Anvil for Abrasive Yarns | 150 | C | S | W | M |
| | W | | | | | ELECTRIC FEELER For Metallized Bobbins | 150 | C | S | W | M |
| | W | | | | M | Apparatus Tests SHIFTING OF YARN | 152 | | S | | |
| Y | | | | | | BOLSTER Cleaner | 152 | C | S | | |
| | W | | | | | Moist-Air SLASHER Made in Britain | 152 | C | S | | |
| | W | | | | | Place Drop-Wires Before Mounting WARP | 165 | C | S | W | M |
| Y | | | | | | Back Thread Guide Improves YARN QUALITY | 165 | | | W | |
| | W | | | | | Wrong Type of QUILL Should Not be Used | 166 | C | S | W | M |
| Y | W | K | F | E | M | Overseer OFFICE HOURS Not Good Practice | 166 | C | S | W | M |
| Y | | | | | | Calculates AVERAGE DENIER in Blend | 168 | | S | | |
| | | K | F | | | Jersey-Cloth FINISHERS Troubled With Bow | 174 | C | S | W | M |
| Y | | | | | | SLUB Gives Linen Appearance | 176 | C | S | | |
| Y | | | | | | Qualifications of CARD-ROOM Cleaners | 178 | C | S | | |
| | | K | F | | | Cleanliness Vital in Knitting Dyed NYLON | 184 | | S | | |
| Y | | | | | | Aluminum BOBBIN for Use with Adapter | 216 | C | S | | |
| Y | | | | | | Steel Roll CLEANER | 218 | C | S | | |



# TEXTILE WORLD



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**DEPARTMENTS**


**Editorial** ..... 4
**Free for the Asking**.....181
**Kinks and Short-Cuts**.....154
**New Dyes and Chemicals**....238
**News About Men**.....262
**News About Mills**.....252
**News About Suppliers**.....244
**News of the Month**.....238D
**Question and Answers**.....170
**Reviews of Books**.....220
**Round Table** .....165
**Textile Calendar** .....238D
**Textile Equipment News**.....149

THE *Long-Range* VIEW

# A Scientific Industry

**Many within the textile industry** might be slow in recognizing the uses of modern science in the industry, but a brief reflection on the numerous new machines, techniques, and instruments now being employed will clearly indicate how much we are today benefiting from the latest scientific discoveries.

As editors of TEXTILE WORLD visit mills and textile-research organizations (either within mills or sponsored by them), they find such things as oscilloscopes, ultrasonic generators, automatic dispatching systems, electron microscopes, electronic controls of many types, stroboscopes by the hundreds, strain gages, thermocouples, a variety of differential-measuring instruments, spectrophotometers, X-ray machines—as well as the commonplace microscopes, various precision balances, high-speed photography, huge panels full of control and recording instruments, well-engineered conveyor systems, color-corrected lighting, automatic door openers, continuous pH regulation, all sorts of testing instruments.

**Textile men** were among the first to receive benefit from A-bomb developments when they adopted radioactive bars to control static electricity. Textile-research men are using "tagged atoms" to measure infinitesimal quantities of finish on yarns. A whole new field of research has opened up.

Although the use of developments from atomic fission is new, and although wartime research—as well as profit—has done much to stimulate application of science to the world's oldest mechanized industry, we recall using such instruments as stroboscopes twenty years ago, and we have used pH control fully as long. The greatest adoption of scientific aids in research and manufacturing has been, however, within the last decade. That does not mean all mills have modernized. In an industry as big and complex as textile manufacturing, one will find the whole range from primitive hand-operated mills to those so completely mechanized that one weaver tends over a hundred looms in a room that never varies more than a few degrees in heat, a few percent in moisture, and only a few foot-candles in light. In some mills today, tolerances may still be measured in sixteenths of an inch, but in others 0.005 is the maximum for thousands of parts.

**There seems to be no limit** to the places where scientific controls can be used. Take, for example, filter screens. Visual inspection to determine when they need cleaning or a definite-period cleaning schedule is being replaced by pressure-drop instruments that tell precisely when screens need cleaning or replacing. Such instruments quickly pay for themselves by saving high-priced labor.

The combination of today's high-priced labor, plus all the new developments that can be used in textile mills, plus an ability to buy has inevitably led to the modernization of textile mills.

The trend is going beyond such things as buildings, machinery, and instrumentation. The scientific approach is being used more than ever before to ascertain job loads, work flow, and the processes for producing textiles.

**It is obviously unsound** for a mill to set rates and work loads by guess or to rely wholly on what its competitor does. The ideal arrangement is to have a competent man or staff within the mill, but the services of outside engineers are available for those mills too small or inexperienced to study their own jobs. We are not referring here merely to the study of jobs as they are being performed, to the old stop-watch-man concept of the industrial engineer, but to the engineering of product flow, of machines used, of operations performed, and of motions employed, as well as to the ascertaining of equitable and guaranteed job loads, as now done in the better mills. Many mills have found an amazing number of unessential operations that have been performed only heaven knows why. Much has been saved in mills by eliminating such operations, more has been saved by performing needed operations in a scientific manner after all the elements involved have been carefully studied.

The textile mill that does not take advantage of the opportunity it has today to go into scientific operation should not complain a short time hence if it finds it can no longer compete. The indications are clear as to the direction in which a textile mill must move if it is to survive.

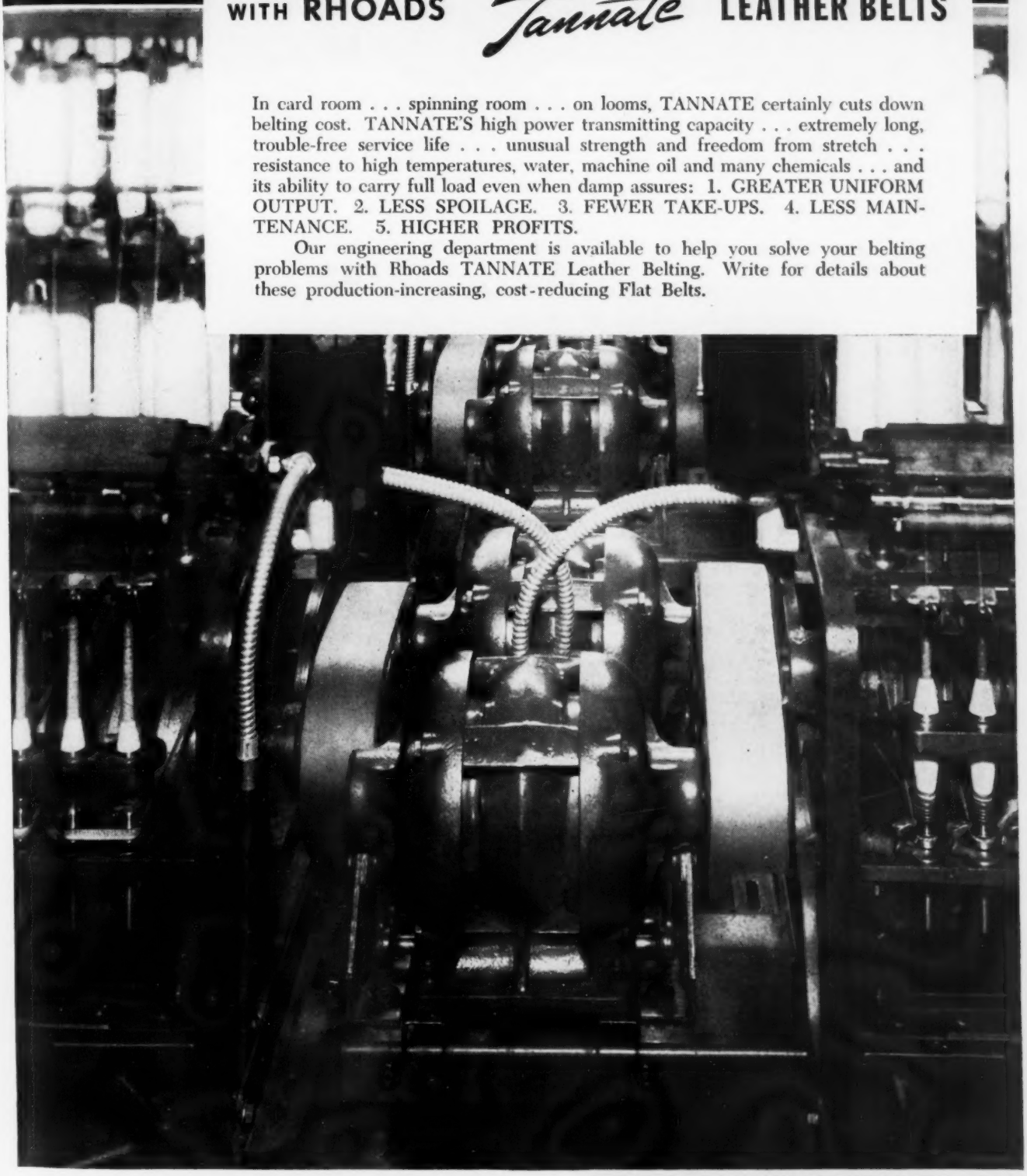
C. H. Bendigo

# INCREASE YOUR OUTPUT . . .

## WITH RHOADS *Tannate* LEATHER BELTS

In card room . . . spinning room . . . on looms, TANNATE certainly cuts down belting cost. TANNATE'S high power transmitting capacity . . . extremely long, trouble-free service life . . . unusual strength and freedom from stretch . . . resistance to high temperatures, water, machine oil and many chemicals . . . and its ability to carry full load even when damp assures: 1. GREATER UNIFORM OUTPUT. 2. LESS SPOILAGE. 3. FEWER TAKE-UPS. 4. LESS MAINTENANCE. 5. HIGHER PROFITS.

Our engineering department is available to help you solve your belting problems with Rhoads TANNATE Leather Belting. Write for details about these production-increasing, cost-reducing Flat Belts.



*PRODUCERS OF FINE LEATHER FOR 245 YEARS*

**J. E. RHOADS & SONS**
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# *Progress Report on a new Industrial Chemical*

GLYOXAL

1856 GLYOXAL FIRST SYNTHESIZED by H. Debus.

1940 NEW PROCESS for the synthesis of glyoxal developed in research laboratories of Carbide and Carbon Chemicals Corporation.

1942 PILOT PLANT QUANTITIES – Sodium bisulfite addition product used as intermediate in synthesis of pyrazine 2,3-dicarboxylic acid, important wartime pharmaceutical.

1946 NEW CARBIDE PLANT for the production of glyoxal. Carload shipments made as result of demand created by development of "Sanforset" process for dimensional stabilization of rayon. Fabrics of viscose rayon are made permanently resistant to shrinkage through treatment with glyoxal.

1947 SEPTEMBER – Glyoxal used in increasing number of commercial applications, including insolubilization of binders in printing inks and paper sizes. Glyoxal shows promise for many new uses: – for insolubilization of starch; shrinkproofing of cottons; and increasing the wet strength of paper in combination with "Cellosize" hydroxyethyl cellulose.

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*Unit of Union Carbide and Carbon Corporation*

30 East 42nd Street UCC New York 17, N. Y.

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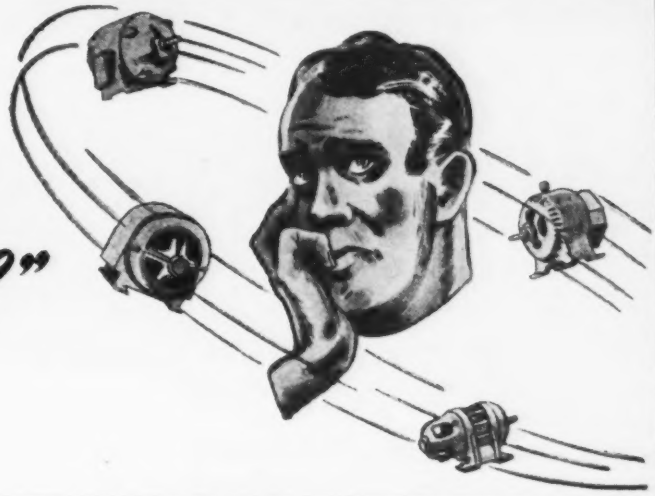
MORE INFORMATION: If you would like technical data on glyoxal—write for Form 5654—please address Department "T-10".

"Cellosize" is a registered trade-mark of Carbide and Carbon Chemicals Corporation

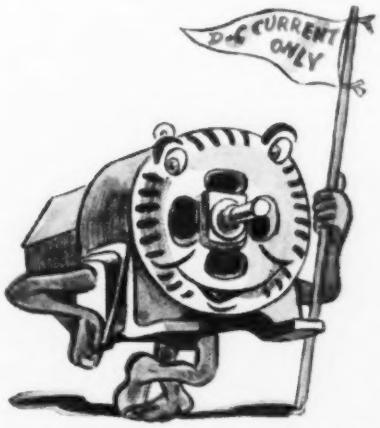
# "Puzzled over which type of motor to buy?"



**In 80% of the Cases,** open squirrel-cage induction motors meet the need. They fit most drives, and can be obtained in numerous standard and special designs to meet varying conditions of starting torque, slip, etc. They are also the most economical type to buy and to maintain. Allis-Chalmers builds induction motors in sizes from ½ to 10,000 hp — or higher, if needed.

**For Tough Starting Conditions,** wound-rotor induction motors are recommended. Their high starting torque, at comparatively low starting current, and their controllable speed characteristics are desirable in drives for conveyors, grinding mills and other tough starting assignments. Compact, accessible Allis-Chalmers wound rotor induction motors range in size from 5 to 10,000 hp.

**For Slow Speed,** direct-connected drives as low as 75 rpm, or other constant speed applications at higher rpm, synchronous motors are a good solution. They are of particular benefit when a system's power factor is low, since they can be furnished for operation at either unity or leading power factor. From 40 hp to 50,000 hp and higher — in bracket bearing, pedestal bearing, or engine types.




**Is d-c Available?** Then adjustable speed operation is easily obtainable. Allis-Chalmers builds d-c motors from ½ to 10,000 hp and higher — for constant or adjustable speed duty in ranges of 6:1 and lower. By means of a source of d-c voltage, adjustable speed motors may also be designed to operate over a speed range as high as 30:1. Suitable for fans, elevators, etc.

## Select from the Complete Allis-Chalmers Line!

NOT JUST FOLLOWING popular choice and using a standard squirrel cage induction motor. But the *right* motor for economy and efficiency.

That means an overall knowledge of *all* types of motors . . . their operation . . . limitations . . . maintenance. And there's where your A-C representative can be a big help. His recommendations are backed by experience . . . and the Allis-Chalmers motor he selects is *itself* backed by 50 years of experience in motor design and building. ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2304

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A CENTURY OF SERVICE to Industry THAT MADE America Great

# ALLIS-CHALMERS

**One of the Big 3 in Electric Power Equipment-**
**Biggest of All in Range of Industrial Products**

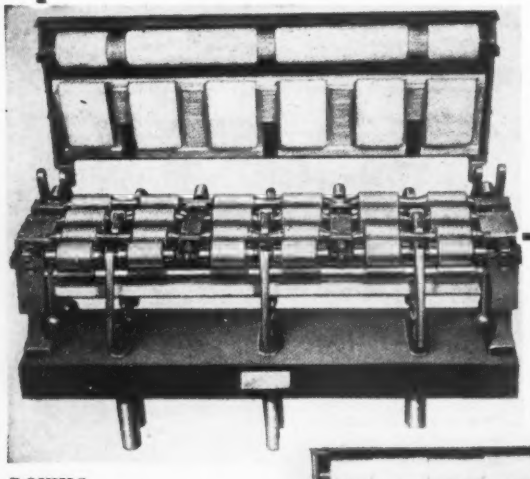
## *NEW SACO-LOWELL CONTROLLED DRAFTING ASSEMBLIES FOR ROVING AND SPINNING*

These Saco-Lowell drafting assemblies for Roving and Spinning offer mills a range of equipment which can process with equal efficiency Cotton, Rayon, Wool or Blends. Their flexibility, with regard to both character and staple length of stock which can be processed, is such, that yarns most in demand to meet fashion's latest requirements can be furnished without necessitating any extensive mechanical changes or added capital investment.

**SACO-LOWELL SHOPS · *BOSTON***

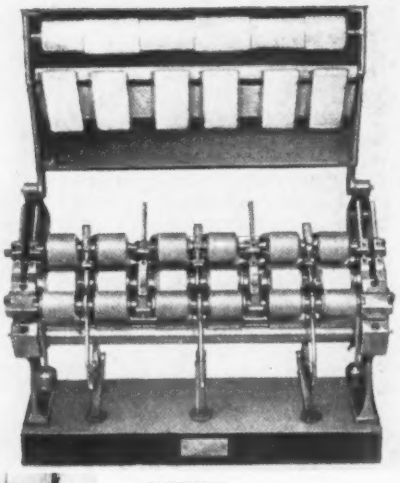
*SHOPS AT BIDDEFORD, MAINE*

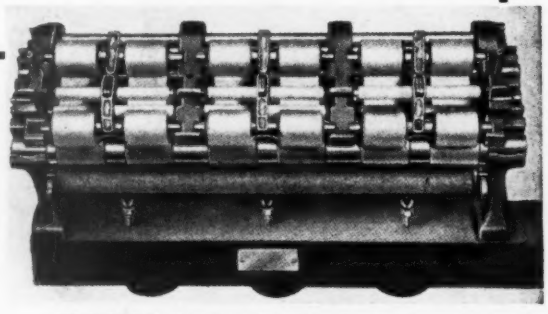
*BRANCHES: Charlotte · Greenville · Atlanta*



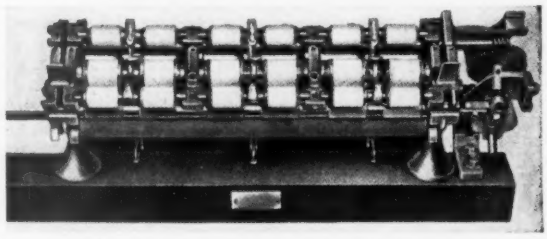
ROVING

The Saco-Lowell J-3 Controlled Draft Unit is the standard roving drafting assembly used to process cotton. The practical drafts range from 10 to 24 on carded stock and up to 30 on combed stock. It can also be used for the synthetic fibres up to $1^{9}/_{16}$".

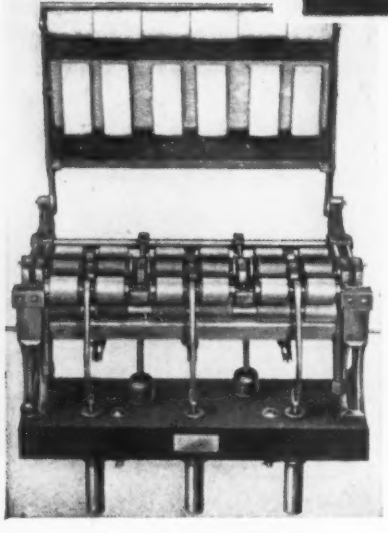




SPINNING. The Z-2 Spinning System is used for the processing of long-staple synthetics and natural fibres such as wool. While it will process cotton satisfactorily for medium and coarse counts, it is especially designed for synthetics and blends containing fibres up to 3".



SPINNING. The Shaw Controlled Draft Spinning System is especially adapted for the production of fine combed yarns. Drafts range from 25 to 40. This system employs a new principle which will have far-reaching effects on the technology of cotton spinning.

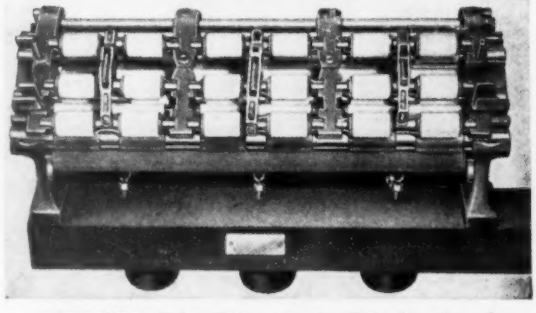


ROVING

The FS-2 Controlled Draft Roving Assembly is equally efficient on stocks consisting of cotton, synthetics, wool, or mixes of these fibres. This assembly has the ability not only to handle a very wide range of staple lengths, from short cotton to $2^{1}/_{2}$" synthetic fibres, but also blends of widely variable staple lengths. Depending upon the material, drafts of up to 40 may be used.

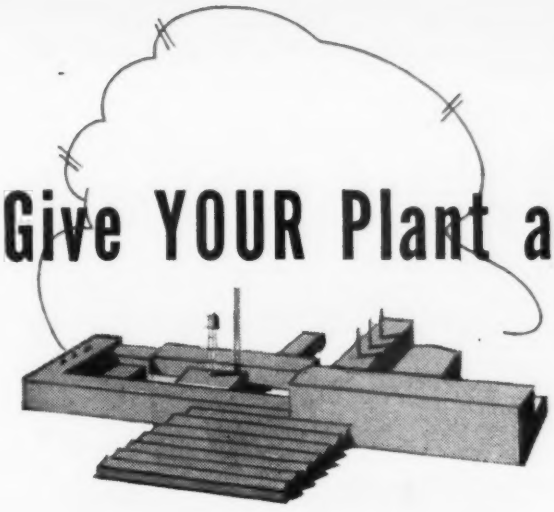
ROVING

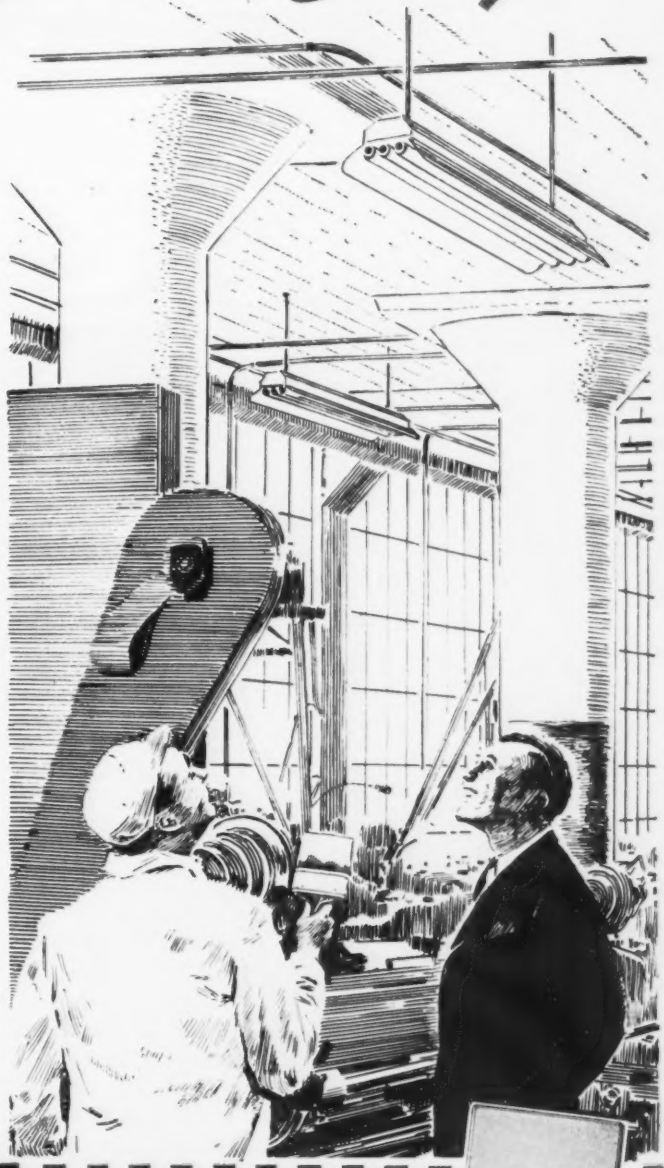
The FS-1 Controlled Draft Roving Assembly, sometimes called the 3 over 4, is especially designed for synthetics and blends containing fibres up to 3" long. It can be operated with drafts as high as 20 to 24. It can also be used for processing short wool tops.



SPINNING. This Better Draft Spinning has been standard for the production of cotton yarns since 1926. It is equally efficient on carded or combed stock. The drafts can go as high as 16 to 18 with carded stock, 18 to 22 with combed stock.

# Give YOUR Plant an "Indoor Sky"





## White Ceilings and Walls Mean Better Light and Better Sight

THE SKY, by reflecting and diffusing sunlight, makes lighting endurable out of doors. Without this reflection and diffusion the sun would be harsh and glaring, shadows dark and opaque, seeing both difficult and uncomfortable.

Indoors, proper painting of plant ceilings and walls transforms them into an "indoor sky" which reflects a maximum of both natural and artificial light, distributes it evenly over the working area and makes seeing easier by reducing glare and harsh shadows and minimizing contrasts in brightness.

Your local Lighting Engineer will tell you that good lighting and good seeing are best served in the plant proper when this "indoor sky" is painted WHITE, for white reflects far more light than paint of any other color.

But "any old white" won't do. If painting is to be a *sound investment* the white you buy must be easy to apply on large areas, give you good "yardage" without loss of hiding power and *remain* white for the longest possible time. That's why for years so many leading industrial plants have standardized on BARRELED SUNLIGHT.

For down-to-earth data on the relationship of light and paint to general plant efficiency, send for free copy of "Light and Color in the Work-World."

U. S. GUTTA PERCHA PAINT COMPANY
20-J Dudley Street, Providence 1, R. I.

*I'd like to know more about the partnership of Light and Paint. Please send me your free 32-page booklet, "Light and Color in the Work-World."*

COMPANY .....

STREET AND NUMBER .....

CITY ..... ZONE ..... STATE .....

MY NAME IS .....

MY TITLE .....

© 1947 U. S. Gutta Percha Paint Company

# For fibers... depend on DuPont!

**Depend on Du Pont** for nylon—because nylon is the proudest product of Du Pont's years of textile fiber research and development.

**Depend on Du Pont** for rayon—because Du Pont research pioneered fine yarns and staple in both viscose and acetate rayon. Few other manufacturers have played so important a part in bringing these man-made fibers to their present state of satisfactory service.

**Depend on Du Pont** for help in developing *blends* and combinations—for Du Pont textile specialists are learning more every day about how to use, where to use, why to use, and what to expect from blending nylon's strength and lightness with the versatile beauty of rayon.

**Depend on Du Pont** because of Du Pont research. In addition to Du Pont's wealth of research in chemistry and engineering, 800 men and women are engaged every business day in specific research in textile fiber development. They are looking for new ways to build extra values, extra *sales* values, into textile fibers made by Du Pont. What other manufacturer can match this record of basic research in fibers?

***Before you decide*** *on any rayon or nylon problems—talk to Du Pont. Their experience, background, and technical skill may help you make your present product better. And tomorrow's exciting news in fibers is in their laboratories today.*

ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION
Rayon Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Del.

**For NYLON**
**For RAYON**
**For FIBERS to come...look to Du Pont**

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

DU PONT
REG. U.S. PAT. OFF.

# C&K LOOMS EXCEL when they're placed on Solid Foundations

They're not actual masonry, of course, but just the same there are *five basic, concrete necessities* which mill management will find good business to provide in the operational set-up of every weave room where new C&K Looms are being installed:

1. Thorough instruction of overseers, fixers and weavers in all new features of all new C&K Looms.

2. Determination of proper speeds... the number of picks per minute at which C&K Looms are designed to operate, and at which they perform at top efficiency.

3. Warp and filling that has been carefully prepared with the purpose of avoiding unnecessary loom stops.

4. Correct and steady levels of temperature and humidity.

5. Full realization by *all* mill personnel that their own personal attention to the above 4 points *is absolutely essential*... if full advantages and benefits are to be gained from their new C&K Looms.

These five foundations will assure higher weaveroom efficiency. They will definitely benefit weaveroom personnel.. and will put management on a far firmer footing in competitive selling. So why not start building these five foundations *today?*

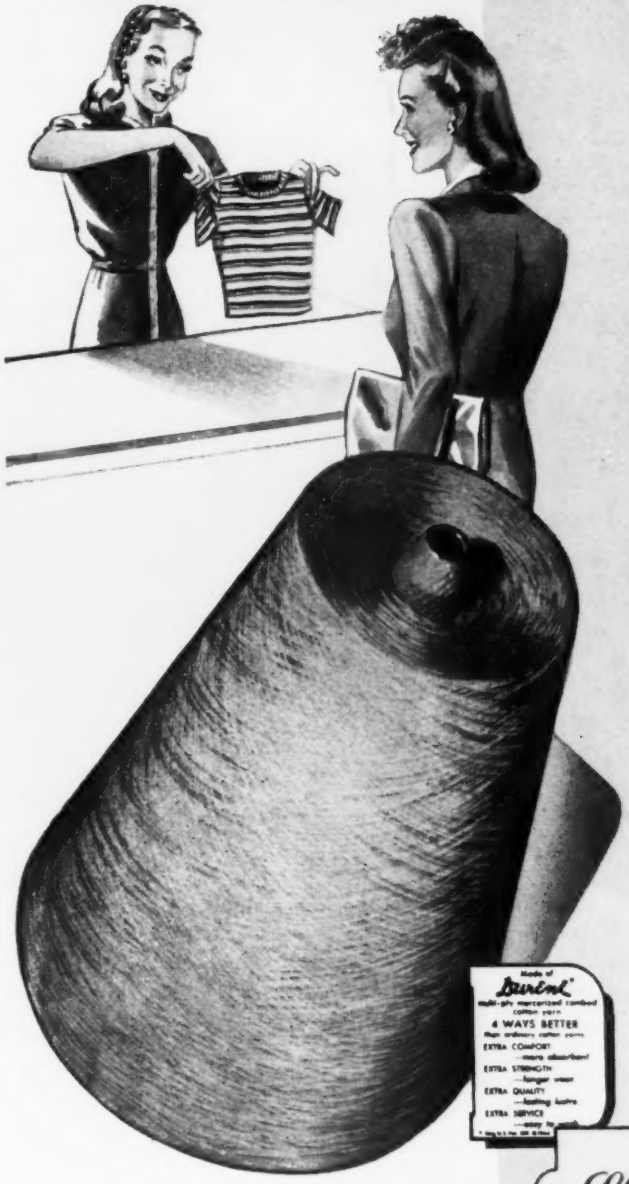
**Crompton & Knowles Loom Works**

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N.C. • ALLENTOWN, PA.

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

*between Today's Knowledge... and Tomorrow's Looms*

**STANDARD *Durene* gives you greater production of quality knitwear—with more comfort, beauty and wear**




Your knitting machines will turn out more quality knit goods per hour when you run Standard Durene. This superior combed mercerized yarn is made so uniform, supple, smooth and elastic it purrs through your needles. It produces more lustrous, soft, smooth-textured fabrics . . . the kind that keeps your customers sold. You run no quality risk with Standard Durene. Its careful processing is all done in our own plant. Standard Durene is rigidly controlled by us from the purchase of selected quality raw cotton to the finished yarn package.

Standard Durene measures up not only to high Durene quality but to our own high standards evolved from our more than seventy years' experience and our constant research. Nationally known manufacturers always choose Standard Durene to safeguard their quality reputation . . . Keep your quality customers satisfied . . . specify Standard Durene.

*Standard Durene • Selo • Mercerized Combed Saks • Threads*

S-C-T — Spinners-Fabricators-Dyers-Bleachers

**Standard-Coosa-Thatcher Co.**

CHATTANOOGA 1, TENN.

SALES OFFICE: 123 South Broad Street, Philadelphia 9, Pa.

*BRANCH OFFICES:*

New York 16, N. Y.
185 Madison Ave.

Greensboro, N. C.
Guilford Building

Chicago 54, Ill.
940 Merchandise Mart

Reading, Pa.
Fifth & Walnut Sts.

Utica, N. Y. P. O. Box 105

*Representatives in Central and South American Countries*

# Floors to Last a Lifetime

***Another interesting application of GEON polyvinyl materials***

THE maker of that floor in the picture won't say so—he says people wouldn't believe him. But chances are the floor will last a long lifetime. It's a new kind of tile—a plastic made from one of the GEON polyvinyl resins.

It's another case of selecting the *right* material for a given job. In this busy airlines ticket office the floor takes a terrific beating from morning till night. It has to resist wear, aging, sunlight, dirt, water, and many other normally destructive elements. It must clean easily, and stay fresh looking and attractive.

GEON resins can be compounded to provide these and many other properties in an amazing number of combinations to meet specific service conditions.

And they may be processed in many different ways—extruded, calendered or cast into sheet or film, pressure or injection molded. In latex or solution forms, GEON may be used to coat and impregnate fabrics, paper, and cardboard. Products made from GEON resins may be flexible or rigid—clear or opaque—brilliantly or delicately colored.

While we make no finished products from GEON or any other raw materials manufactured by B. F. Goodrich Chemical Company, we'll be glad to work with you on any special problems or applications. For more information, write Dept. M-5 B. F. Goodrich Chemical Company, 324 Rose Building, Cleveland 15, Ohio.

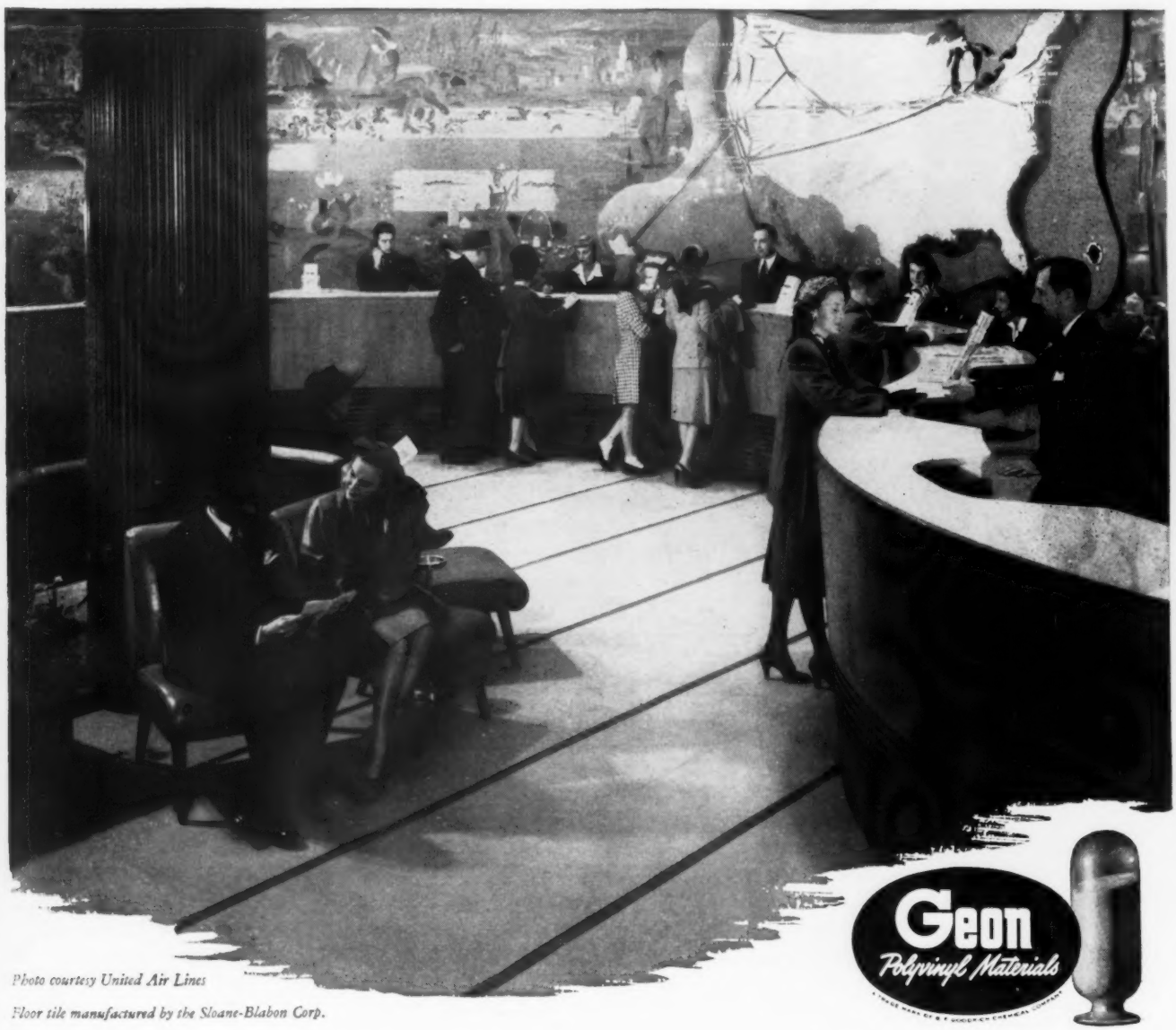



*Photo courtesy United Air Lines*

*Floor tile manufactured by the Sloane-Blabon Corp.*

**B. F. Goodrich Chemical Company**

A DIVISION OF THE B. F. GOODRICH COMPANY

**GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE chemicals**

# *Everybody agrees*

# COSTS MUST COME DOWN

ONE important place to start reducing costs is with the machine where goods are made.

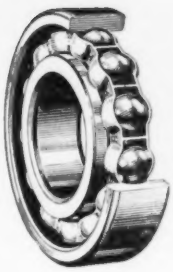
Speedier production is very definitely a function of New Departure ball bearings.

Operating with less friction, less wear than other types, the ball bearing is a "natural" for the higher speeds, greater rigidity and improved quality of product demanded by today's exacting production standards.

Thus, an investment in machines of modern ball bearing design is an investment in faster production—*lower costs.*

New Departure's technical literature is helpful. Tell us your needs.

87% of machine tool builders exhibiting in Chicago use New Departure ball bearings.



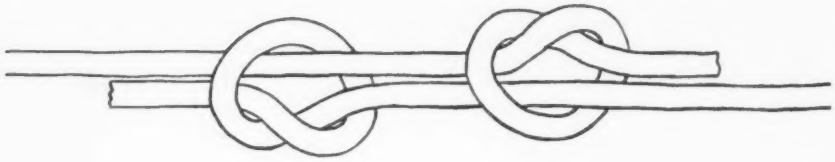
*nothing rolls like a ball*

## NEW DEPARTURE

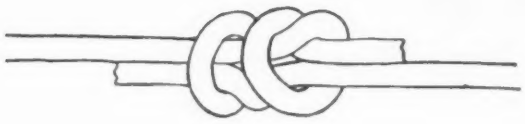
**BALL BEARINGS**

NEW DEPARTURE • Division of GENERAL MOTORS • BRISTOL, CONN. • Branches in DETROIT, CHICAGO, LOS ANGELES and Other Principal Cities

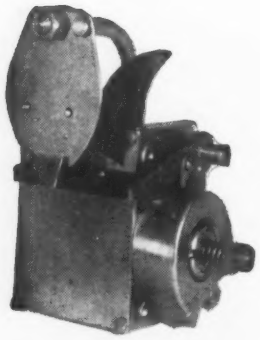
# DO YOUR KNOTS SLIP?



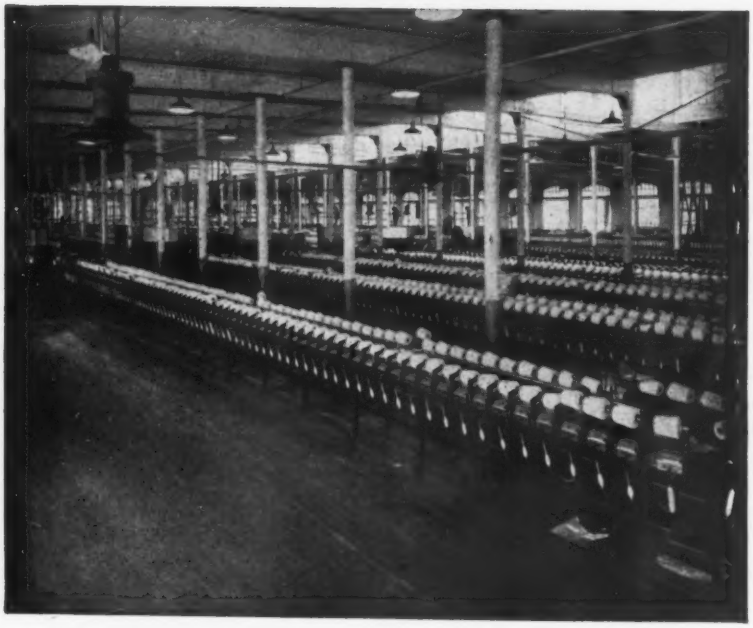
USE THE FISHERMAN'S KNOT



TWO SINGLE KNOTS PULLED UP AGAINST EACH OTHER



The knot tier is a small precision made unit that can be replaced by a spare knotter in two minutes



All of our Traveling Spindle Winders tie this small, smooth, non-slipping Fisherman's knot

## ABBOTT MACHINE COMPANY

WILTON, N. H.

SANDOZ PRESENTS *the color achievement of the month*

# *October Color* BY HADLEY

In superbly soft cashmere, The Cashmere Corporation of America reproduces the luminous yellow of October in sweaters that find their way, through Hadley & Company, to some of America's finest stores.

Erie Dyeing and Processing Company, dyers for Hadley knitwear, include Sandoz among their suppliers with the confidence that Sandoz colors are in accord with fashion, are sure-handling in the dyeing operation, and can be counted on for fastness in wear.

Among the new and faster Sandoz colors for sweater yarns is

Xylene Milling Yellow 3GL.

This product has unusual fastness to washing, water, salt water and perspiration, which — with its excellent fastness to light — makes it ideal for yarns going into sweaters and bathing suits. For those fabrics which have to be fulled, this Sandoz color is unexcelled among bright yellows of similar shade, for its fastness to fulling.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements. Sandoz application laboratories are located in New York, Boston, Philadelphia, Charlotte, Los Angeles, and Toronto, where stocks are carried. Other branches are in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

SAND *thinks ahead with textiles* S SANDOZ

# KNITTERS WHO DO THEIR OWN SPINNING

*Wind on Roto-Coners*...*

*Knit from Roto-Cones*

Among the cotton spinning mills which are replacing their old winding equipment with Roto-Coners* (and they are in the majority these days) are many which are knitters, too.

These mills appreciate the double advantage of Roto-Coner* winding machines — high production and low operating cost in the winding room . . . quality work at the knitting machines.

The exclusive Rotary Traverse permits higher winding speeds (without the necessity of changing speed when changing yarn counts). And there are no cams or other fast-wearing parts.

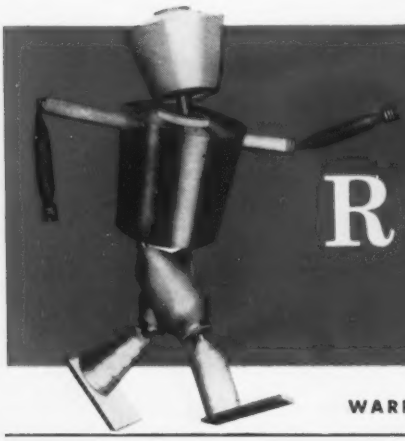
The same Rotary Traverse is responsible for the steep-angled lay of yarn which produces easy delivery at all diameters, the elimination of stitches and freedom from roll cuts.

Read Bulletin 144 for more facts about America's fastest-selling winding machine.

**UNIVERSAL WINDING COMPANY**

Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal, Hamilton

23.7.10



LEESONA
REG. U.S. PAT. OFF.

# ROTO-CONER*

## Open-Wind Cones for Knitting

WARPING CONES — DYEING PACKAGES — PARALLEL TUBES FOR TWISTING

# A Blind Man can see

## FORMICA is better

### for many pieces of Textile Mill Equipment

With his supersensitive finger tips he can feel all over a Formica carrying basket and assure himself that it has the smoothness that makes snagging impossible. He would find a very old and much used basket still retains its flawless surface perfection. His mind would see as yours can, the advantage to textile mills in buying forever splinterless Formica. It is so hard it resists dents, so easily cleanable that it doesn't collect dirt, and any gummy substances that might adhere can be easily washed off. Dyes and mild acids like acetic do not affect it, and it does not warp or chip. All of these advantages are present too, in Formica inspection tables which are gaining wide popularity, where delicate fabrics are handled. Without using your eyes or your fingertips you can see the advantages of these properties in many pieces of textile mill equipment besides the ones pictured here.

**THE FORMICA INSULATION COMPANY**

**4668 Spring Grove Avenue** **Cincinnati 2, Ohio**

FORMICA
REG. U. S. PAT. OFF.

# Even Under Severe Conditions

# ...the Bond is Permanent

All known types of bond strength tests on Lukens Stainless-Clad Steels add up to this: bond strength equals or exceeds that of the steel backing plate. The results of one such type of test—a standard ASTM-ASME shear strength test made at the bond line on stock plates taken at random—are tabulated below.

The Lukens method of manufacture assures this permanent bond. It also provides a uniform thickness of cladding—a matter of prime importance in fabrication.

There is a whole family of Lukens Clad Steels—the widest variety of clad gags available anywhere. For information on Lukens Stainless-Clad Steels, write for Bulletin 338; on Lukens Nickel-Clad, Inconel-Clad and Monel-Clad Steels, ask for Bulletin 255. Lukens Steel Company, 406 Lukens Building, Coatesville, Pennsylvania.

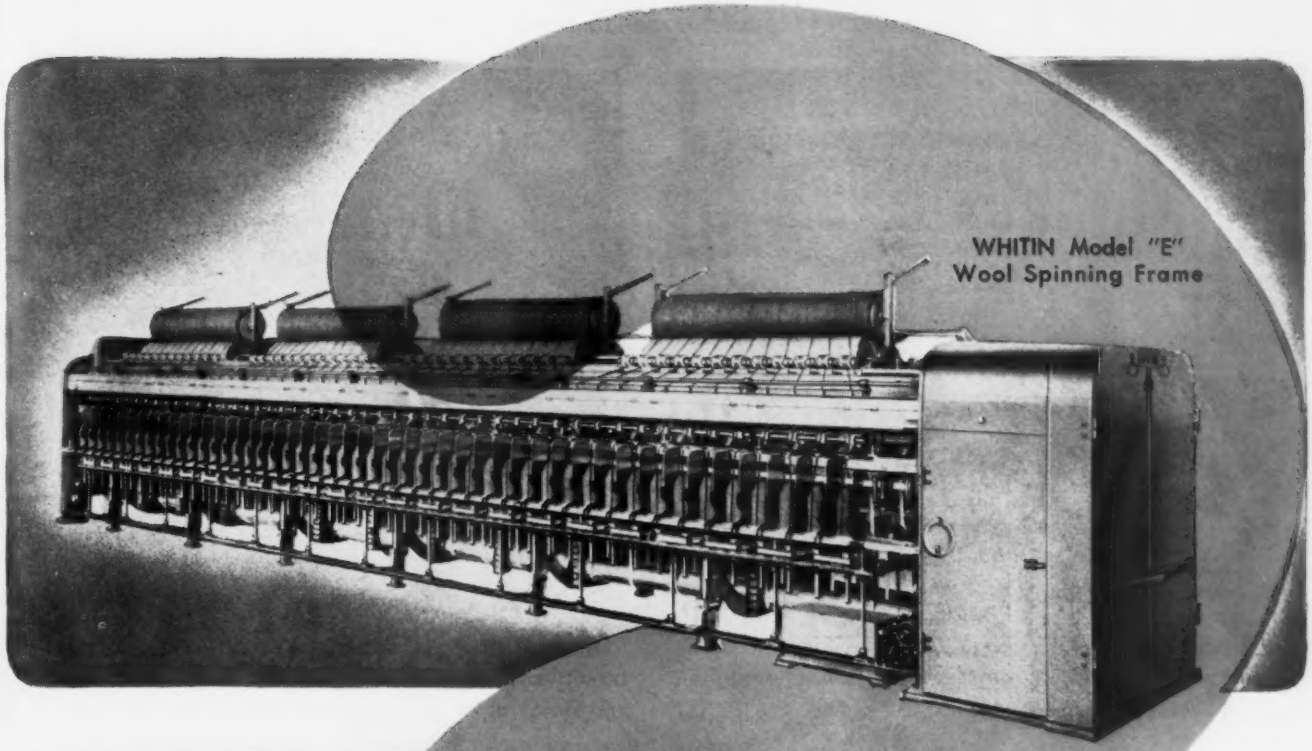
**Shear Strength of the Bond in Lukens Stainless-Clad Steel Plates in the Annealed Condition**

| Type | Gauge | Percent Cladding | Shear Strength *(psi) | |
|---|---|---|---|---|
| | | | Minimum | Maximum |
| 304 | 1/2" | 20 | 44,900 | 54,900 |
| 316 | 1/2" | 20 | 46,400 | 52,600 |
| 316 | 3/4" | 10 | 40,700 | 55,900 |
| 347 | 1/2" | 10 | 44,400 | 48,000 |
| 410 | 1" | 10 | 42,200 | 47,300 |

*ASME specified minimum shear strength of clad steel bond is 20,000 psi.

**LUKENS**
Nickel-Clad Stainless-Clad
Inconel-Clad Monel-Clad
**STEELS**

**SOLID METAL ADVANTAGES WITH CLAD STEEL ECONOMY**



WHITIN Model "E"
Wool Spinning Frame

# THERE'S NO QUESTION . . .

## *about the increasing usage of Whitin Wool Spinning Frames.*

Mill after mill has found its way to more profitable operation through the installation of Whitin large-package wool spinning frames. There are definite reasons why these Whitin Spinning Frames are being used to such great advantage:

**HIGHER PRODUCTION:** Continuous, rather than intermittent spinning is an outstanding characteristic of this machine and, within reasonable limits, twist does not affect yield. These two facts, plus infrequent doffing, result in increases in production of from 100 to 300% over other spinning methods.

**FLEXIBILITY:** Changes in draft, direction of twist and the build of the package can easily be effected by simple adjustments. The weights of yarn to be spun can also be readily changed. A wide range of worsted effects, from lofty to lean, can be obtained by varying the settings.

**ECONOMY:** The uniformity and evenness of the yarn produced results in yarn of increased strength. This fact, together with the use of large packages, reduces knots up to 75% when compared with competitive spinning methods. The result is less time loss in doffing, burling, spooling, winding and twisting. Even greater economies can be obtained when the large frame packages are re-wound on Whitin-Schweiter Automatic Filling Bobbin Winders.

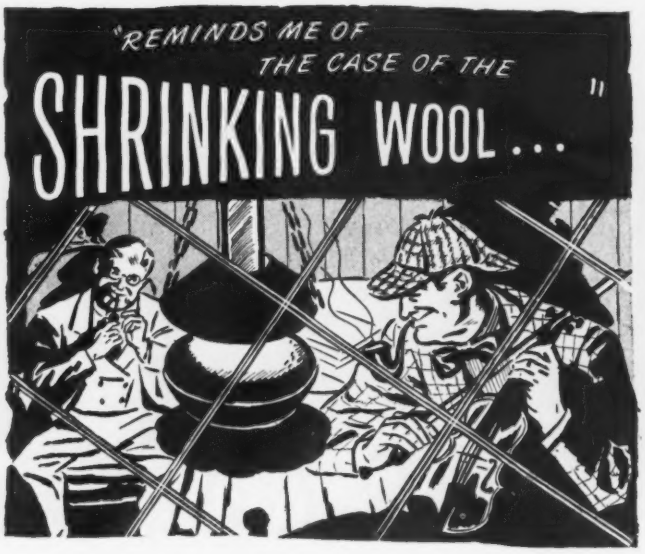
---

*Write for descriptive literature on both Whitin Model "E" Wool Spinning frames . . . and Whitin-Schweiter Automatic Filling Bobbin Winders.*

# Whitin MACHINE WORKS

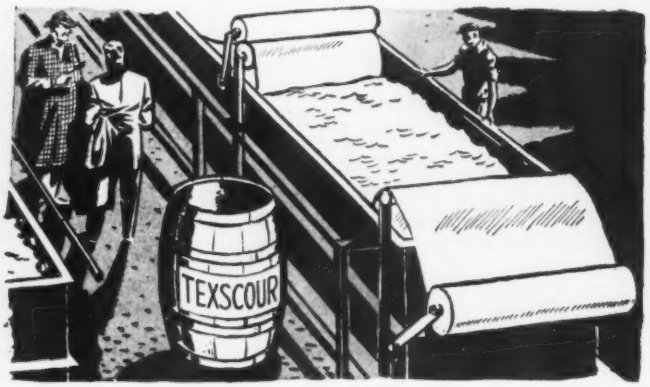
WHITINSVILLE, MASSACHUSETTS
CHARLOTTE, N. C. • ATLANTA, GA.

*Another Adventure of the Armour Soap Sleuth*



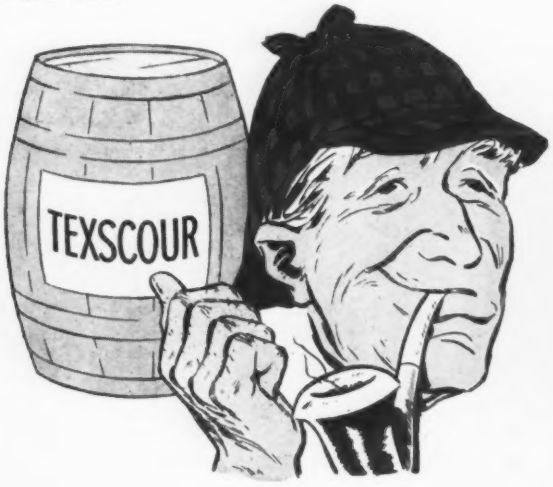

. . . mused the Soap Sleuth, fingering his violin. "I had just returned from helping another chap with his scouring problems, when suddenly . . .

"The door of my 31st Street Laboratory burst open! A frantic mill manager rushed in muttering about the felting and shrinking of his wool piece goods! I set out for clues.




"At first, I thought it might be a case of the wrong kind of soap. But when I saw *Armour's Texscour* being used for their scouring of wool piece goods, I was convinced the manager knew his soaps. You see, TEXSCOUR, the red oil base flake soap with a low titer of 8-12° C., gives quick, lasting suds. TEXSCOUR cuts grease, knocks out soil and foreign material – rinses fast and completely, gets wool clean and white.

"Anyway, one check of the scouring bowls, and I didn't need my trusty glass to spot the trouble. *The liquor temperature was much too high! Good* scouring must be done at *low* temperatures to keep wool from felting and shrinking. That manager now gets a *better, cleaner* scour using TEXSCOUR at the right temperatures. Incidentally, I've helped with quite a few textile problems. A telephone call is all that's needed to get me on the job."

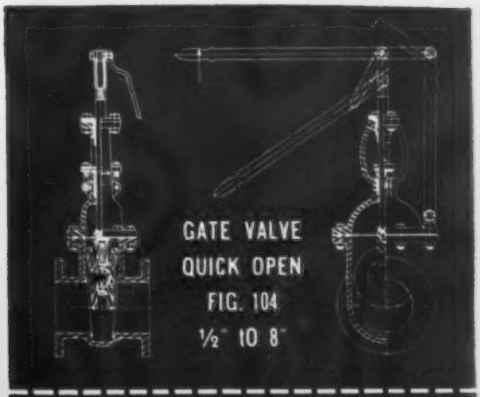


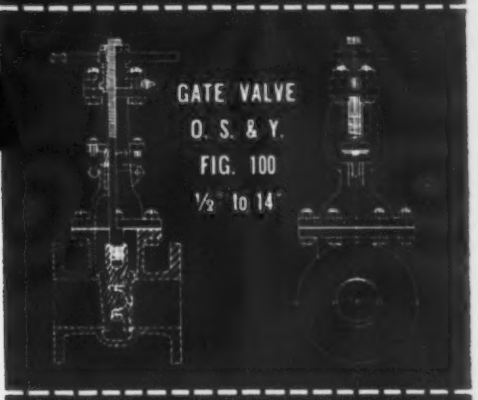

**Armour INDUSTRIAL Soap**

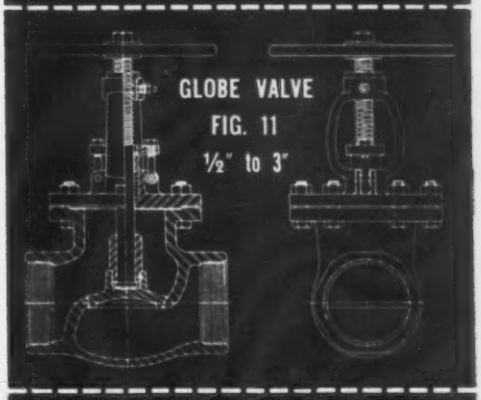
Armour and Company, 1355 W. 31st., Chicago 9, Ill.

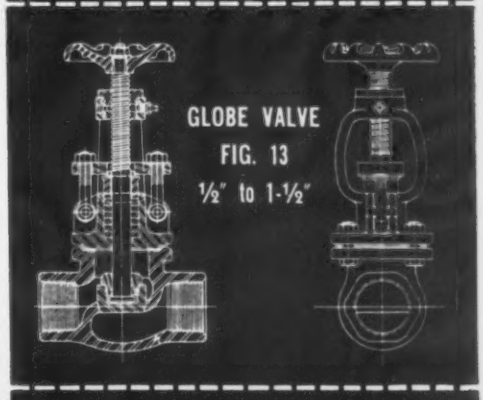
# Now Available from Stock

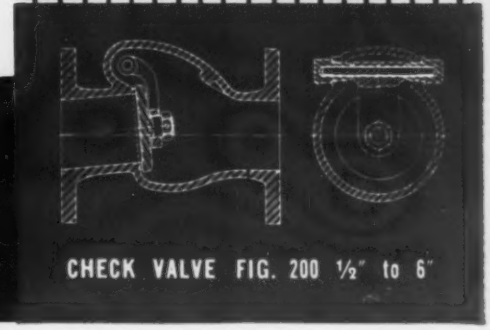
# COOPER Certified Stainless STEEL Valves and Fittings




✻ **Backed by 25 years of Stainless Steel "know how", each Cooper valve or fitting is "Certified" to do its job efficiently . . . for Cooper registers the analysis of each heat, and stamps each casting with its heat number. When desired, a certificate of the analysis and heat number is issued which applies to all Stainless Steel parts which come in contact with the liquid being handled. Each valve or fitting rigidly meets the specifications of the job.**

***COOPER Stainless Steel Valves and Fittings are sold through the largest Stainless Steel distributors in the country. Check with your local distributor.***

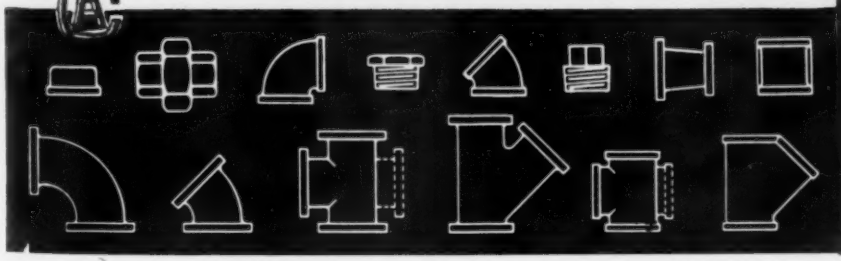
## *Just off the Press!*

**The behind-the-scenes story of Cooper and 25 years of pioneering in Stainless Steel Castings . . . taking you on a tour of Cooper's facilities and detailing the production methods employed in Stainless Steel Castings. We will be glad to forward a copy upon request.**

## The COOPER ALLOY FOUNDRY CO.

**HILLSIDE, N. J.**

*Specialists in Corrosion Resisting Stainless Steel*
*. . For a Quarter of a Century . . .*



# ALLIS-CHALMERS

# Pre-Engineered

## COMPLETE AUTHORITATIVE PRACTICAL

**— ONLY ALLIS-CHALMERS OFFERS YOU THIS ADVANCED ENGINEERING**

**THIS IS** the most complete V-belt drive reference book ever published. It contains:

**PRE-ENGINEERED DRIVE TABLES**—1 to 150 hp, thumb-indexed for quick reference. Just turn to the page you want — read off the complete drive data.

**ENGINEERING TABLES** — sheave dimensions — drive selections — general information. Everything carefully arranged and indexed for easy figuring of special drives.

Book contains 144 pages, size 8½ by 11 inches. Thumb index and classified index make it easy to use.

# ANNOUNCES
# Texrope Drives

## ..and a NEW Texrope Manual that Makes Selection Easy

THIS MANUAL marks a revolutionary advance in the application of V-belt drives. It enables every user to select, with unerring accuracy, the one *best* drive for any normal requirement. It eliminates guesswork, figuring and chance for error. It assures greatest possible economy and efficiency in the use of Texrope V-belt drive equipment.

### SOLVES 90% OF ALL V-BELT DRIVE SELECTION PROBLEMS

Texrope Pre-Engineered stock drives tables have been worked out in a complete range of speeds, for horsepowers from 1 to 150. These tables show, in one place, the correct drive for any requirement. Each is the *one best drive* for the job, as pre-engineered by the finest V-belt engineering staff in the world.

### MOST ECONOMICAL, IN BOTH FIRST COST, MAINTENANCE

Every Pre-Engineered drive selection is made up of regular Texrope stock items. No special-order equipment is required. You can't make the mistake of buying a larger, more expensive drive than you really need, or of installing an underpowered drive that will be costly in performance and maintenance. Texrope Pre-Engineered drive selections are the *best* engineered drives — in low first cost — in performance—in reduced maintenance.

### THE RESULT OF 22 YEARS OF V-BELT EXPERIENCE

Only Allis-Chalmers has developed a complete Pre-Engineered drive manual. It is more than the work of slide-rules or the rearrangement of old tables. It includes the industry's greatest V-belt drive experience—the knowledge and judgment gained through 22 years of building and studying V-belt drives for every industrial application.

Copies of this new manual have been sent to many Texrope users and dealers. If you have not received one, write for Texbook No. 20P40. ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN. A 2249

### TEXROPE . . Greatest Name in V-Belt Drives

**"Super 7" V-BELTS**
Five Types — Sizes to suit every power transmission job.

**Texsteel, Texdrive, "Magic-Grip"**
— sheaves in a full range of sizes, grooves.

**"Vari-Pitch" SHEAVES**
Exact variations in speed, stationary or motion control.

**SPEED CHANGERS**
Speed variations up to 375% at the turn of a crank.

**ENGINEERING**
Finest V-Belt engineering talent in the world—at your call.

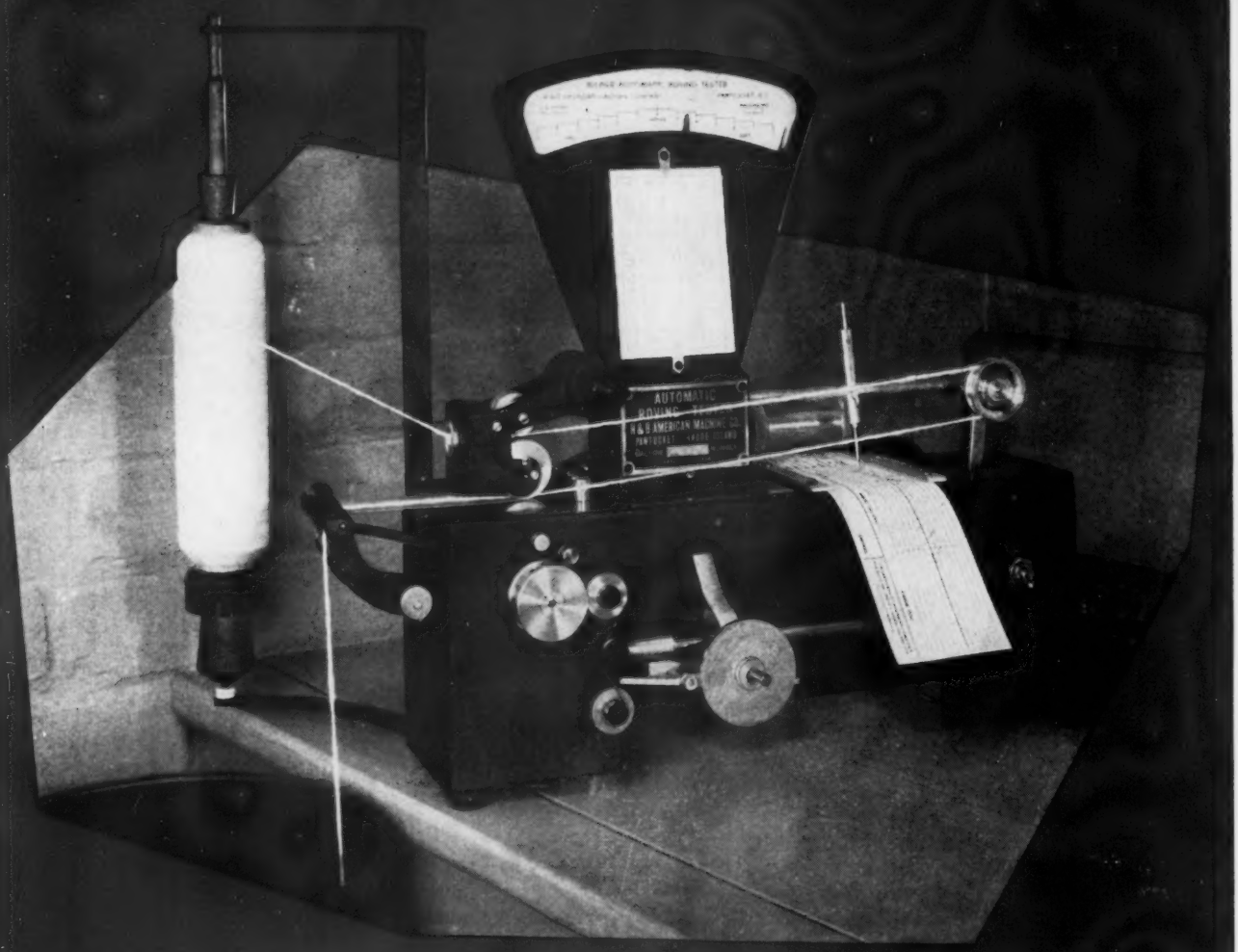
TEXROPE "Super 7" V-Belts result from the cooperative research of two great companies — Allis-Chalmers and B. F. Goodrich. They are sold only by A-C.

# ALLIS-CHALMERS

**One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products**

1847 1947
A CENTURY OF SERVICE
to Industry
THAT MADE
America Great

# H & B AUTOMATIC




We, at H & B, have long been proud of our efforts toward perfection in even the smallest details of textile machinery manufacture. We have stressed the importance of the "little things" done in the right way from the beginning. We believe this emphasis has resulted in superior machinery to do your work. Now we want to mention a *little* machine which you can use to make a *big* difference in your production.

# H & B AMERICAN

*Builders of Modern*

FACTORY, EXECUTIVE OFFICES AND EXPORT

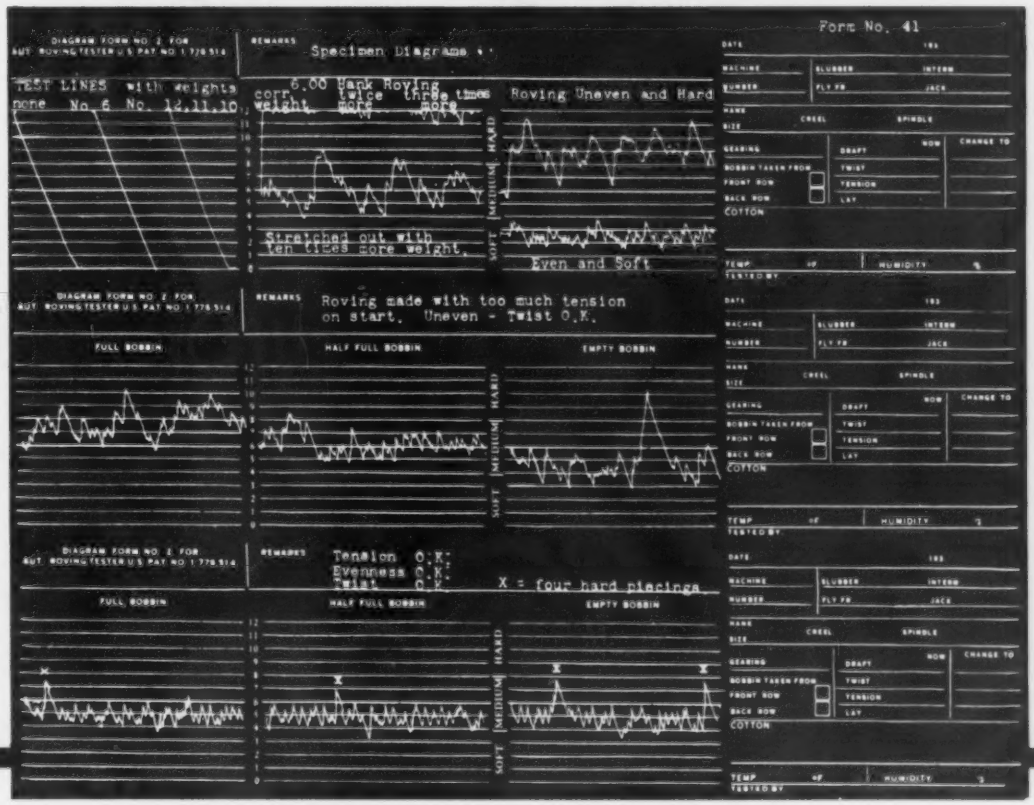
# ROVING TESTER . . .

## IT'S THE LITTLE THINGS *that make a Big Difference*

This machine is used to obtain an impartial record of the physical condition of your roving. From this record roving is judged for tension, evenness and twist. A short explanation of how the tester functions helps make its value clear. Weights on the balance scale stretch the roving being tested as much as the draft between the intake and delivery rollers. When a roving is hard the diagram, as shown here, is marked between lines 8 and 12, when soft between lines 0 and 4. Perfect roving keeps the pen at the heavy 6 line of the diagram.

With a little experience the tester operator recognizes faulty roving and what the faults are. Then, when diagrams are made from every Slubber, Intermediate, Fly and Jack Frame in the mill, you are ready to adjust your frames to produce the kind of roving you want.

The H & B Automatic Roving Tester is the only mechanical device to impartially test roving. It eliminates the possibility of error through bad judgment. Here is a little thing designed to make a big difference in your production.




# MACHINE CO.

*Textile Machinery*

**DIVISION** **PAWTUCKET, RHODE ISLAND, U. S. A.**

**BRANCH OFFICES**

**ATLANTA, GA.**
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING

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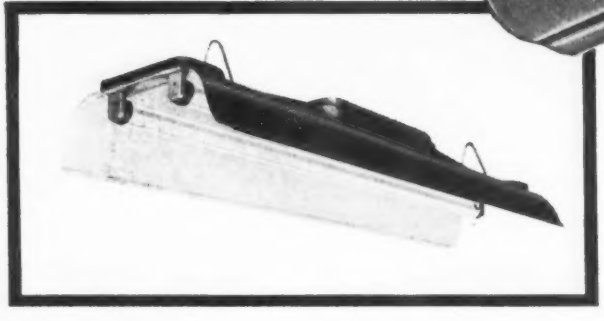
# NOW YOU CAN INSTALL

## The Radically New, 100% Improved

## HF-100 FLUORESCENT FIXTURE

## *FOR INDUSTRY!*

The exclusive hard baked white Miracoat finish assures unequalled reflection factors—not less than 86% —so important in textile mills! The two-lamp reflector has a pair of knockouts which are removable to provide for a third lamp if a higher intensity is desired.



### *Easiest to Install!*

Hook slots in sides of top-housing for chain hanging make the HF-100 a cinch to install. Practically full-length channeling along both sides of top-housing for mounting with Slide-Grip Hangers. Eight knockouts make it easy for stem mounting.

# SYLVANIA

MAKERS OF FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES; ELECTRI

## LOOK AT THESE EXCLUSIVE NEW PLUS FEATURES!

1. There's not a single welded spot — no weak points that may pull apart or rust.
2. Turned down lip on reflector eliminates possible dirt catcher — provides greater rigidity . . . easier to maintain.
3. Truly a *one-piece design* chassis — no need for nuts, bolts, screws or welds to hold chassis together.
4. No welded internal cross bracing — no sharp edges in wiring channel to cause short circuits.
5. No hanging "ears" — smooth top easier than ever to clean.
6. Wire hook supplied with each chassis attaches directly to chain — "S" hook no longer required.
7. Wide web adds greater strength to already rugged "truss" construction.

## *Easiest to Maintain!*

**Not necessary to remove a single nut or screw to change starters or lamps! Reflector demountable by a twist of the wrist! That's the kind of industrial fluorescent fixture you want to install. Complete with two 40-watt Sylvania Fluorescent Lamps. Act now!**

***Sylvania Electric Products Inc., 500 Fifth Ave. New York 18, N. Y.***

***OBTAINED THROUGH SYLVANIA DISTRIBUTORS***

# ELECTRIC

**LIGHT BULBS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES**

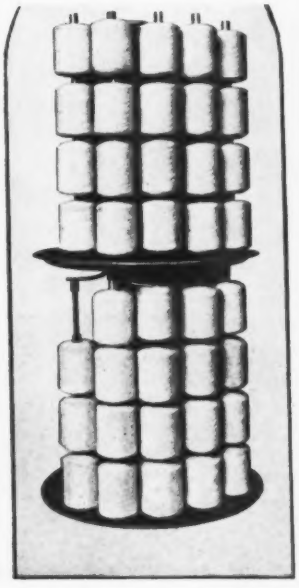
# Obermaier

Reg. Trade Mark

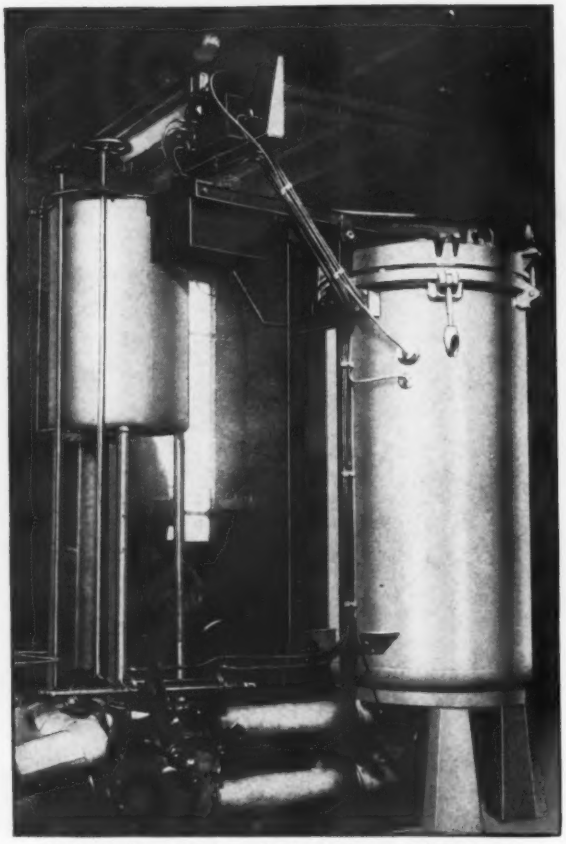
## COMBINATION BEAM AND PACKAGE DYEING MACHINE

# Stienen

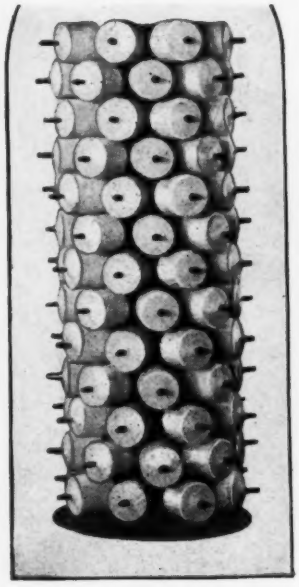
Trade Mark



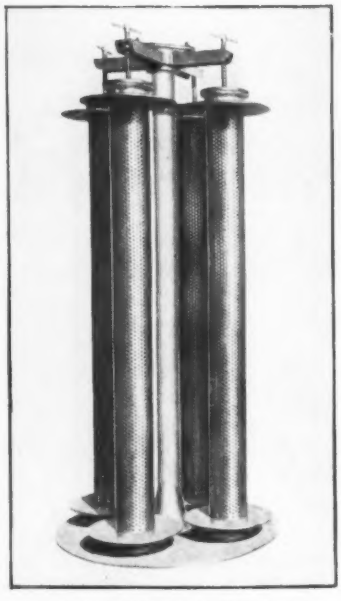
Stainless Steel Double Material Package Carrier



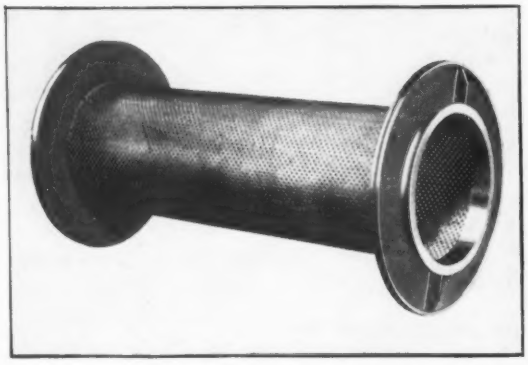
Model Kam Stainless Steel Combination Beam and Package Dyeing Machine—Capacity, One to Six Beams.



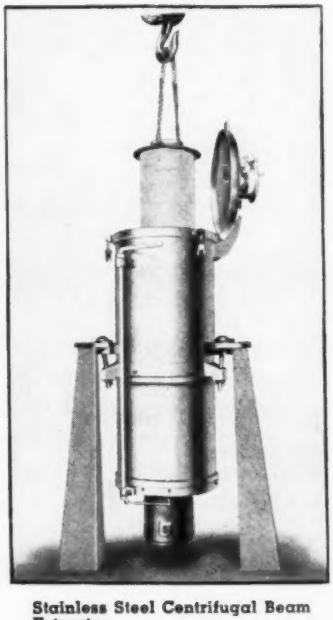
Stainless Steel Porcupine Package Material Carrier



Stainless Steel Material Carrier with Four Small Beams.



Standard American Stainless Steel Beam



Stainless Steel Centrifugal Beam Extractor.

## Standard Fabricators

INCORPORATED

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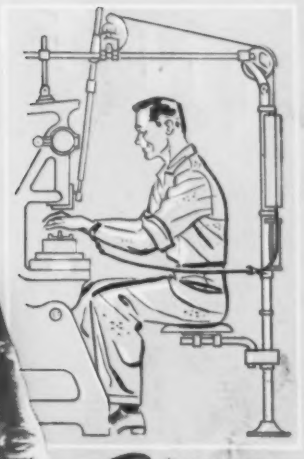
**BUILDERS OF**

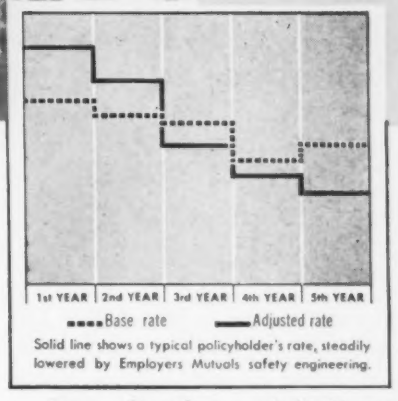
DYE-SPRINGS

TRADE MARK

**COTTON AND WOOL DYEING MACHINES — FOR BEAMS — PACKAGES — RAWSTOCK — SKEINS — RAYON CAKES — DYE SPINDLES — PERFORATED TUBES — CENTRIFUGAL PUMPS — EXTRACTORS AND DRYERS**



This is the type of press guard which provided the protection described herein.




Solid line shows a typical policyholder's rate, steadily lowered by Employers Mutuals safety engineering.

# "Look-my two hands-saved!

## I OWE THEM TO OUR EMPLOYERS MUTUALS ENGINEER"

Something went wrong. The press ram dropped!

Only by the split-second action of the pull-back guard attached to his wrists were his hands and arms saved from being completely crushed. Emotionally moved, relieved, above all thankful, he kissed the guard that provided protection!

Because an Employers Mutuals Safety Engineer had *spotted* potential danger points and *planned* against them, this man's hands had been saved. Further, *every* worker in that plant had been furnished protection —and the accident loss ratio was cut from 143% to 17% in three years, with a consequent reductionin the plant owner's workmen's compensation insurance premium.

Examples such as this confirm the fact that Employers Mutuals are more than "mutual" in name and policyholder-ownership alone. These are successful, seasoned organizations which respect and understand the widely divergent insurance problems and goals of those whom they protect.

Safety engineering, industrial health programs, accident prevention, prompt adjustment of claims . . . all are included in the many services maintained by Employers Mutuals. Responsibility of service begins the moment your policy is in effect.

You are urged to let your Employers Mutuals man (consult your classified phone book) give you full *understandable* information on Group Disability (Health, Accident, Hospitalization and Surgical Benefits) . . . Workmen's Compensation . . . Public Liability . . . Burglary and Plate Glass . . . Automobile and other casualty insurance . . . Fire . . . Tornado . . . and allied insurance lines. All policies are nonassessable.

A helpful new booklet, "How to Use Employers Mutuals Safety Engineering to Cut Insurance Costs," is yours for the asking.

And, if you request it on your business letterhead, we will include a copy of "A Dictionary of Insurance Terms," a copyrighted book available only from Employers Mutuals of Wausau.

EMPLOYERS MUTUALS OF WAUSAU . . . make insurance understandable

**EMPLOYERS MUTUALS OF WAUSAU**

EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY OF WISCONSIN
EMPLOYERS MUTUAL FIRE INSURANCE COMPANY
HOME OFFICE: WAUSAU, WISCONSIN

*Offices in Principal Cities—Consult Your Telephone Directory*

# IN THE SPOTLIGHT

Knitted outerwear, underwear and anklets made from *Aberfoyle Mercerized Yarns* command the spotlight. ☆ More than sixty years of specialized experience in cotton mercerization have built the Aberfoyle reputation and heritage, so zealously held and guarded today. ☆ It's no wonder, then, that the skilled craftsmanship which produces these yarns is of major importance in making cotton garments of extra strength, comfort, beauty and service.

"NATURAL, BLEACHED, DYED AND MERCERIZED YARNS"

ESTABLISHED 1883

aberfoyle

AMERICA'S OLDEST MERCERIZERS

Durene*

*Reg. U. S. Pat. Off.

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street, Philadelphia, Pa.
—and in the South
ABERFOYLE MANUFACTURING COMPANY
Belmont, North Carolina

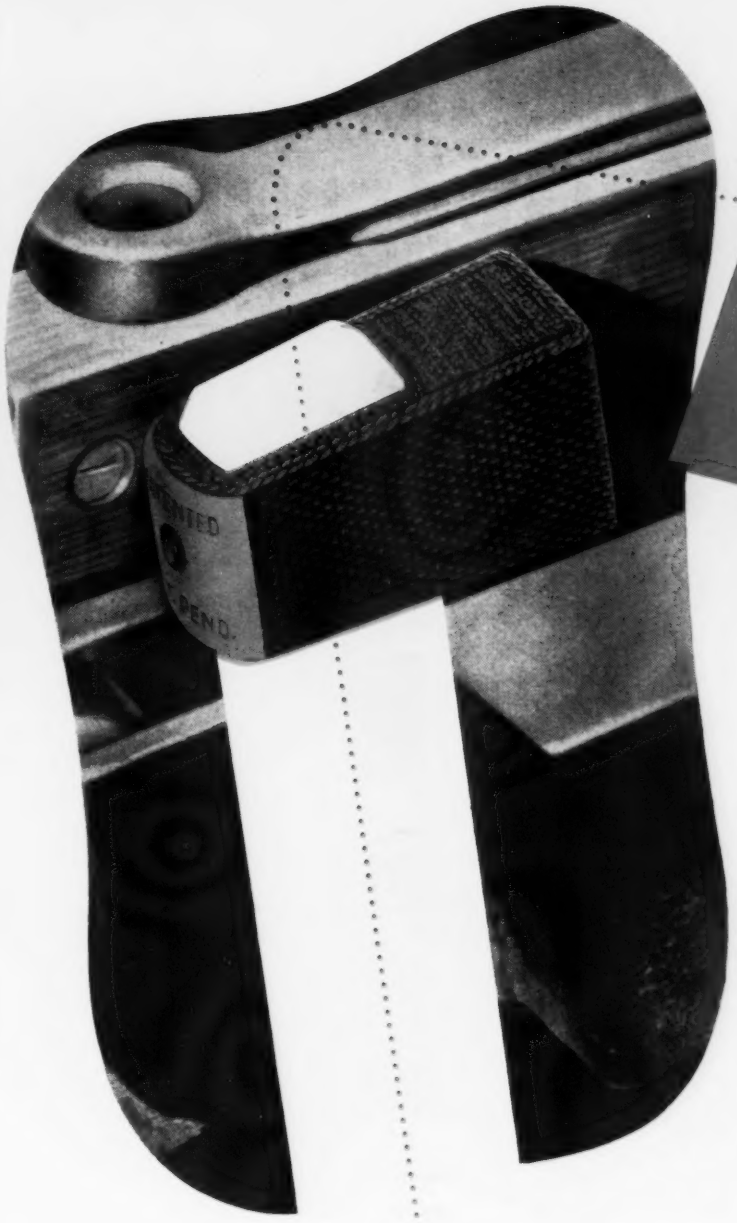
*Representatives in principal textile centers of the world*

Made of Durene multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash
* Reg. U. S. Pat. Off. © 1944

NEOPHIL

MADE OF Wearwist YARN MERCERIZED COTTON

* Neophil, the Nylon Seaming and Looping Thread for Nylon Full-Fashioned Hosiery, made by the Premier Thread Co., Pawtucket, R. I.



## No equal for "staying put" on the picker stick

Dayton De Luxe Loop Pickers are virtually "built around a hole" designed to meet all characteristics of the picker stick. Practical design includes a slightly flared bottom so that when the picker is started onto the stick the taper prevents tearing of the loop ply and facilitates centering. When the Dayton picker is driven onto the stick, there is nothing to break . . . nothing to expand. Dayton design, plus specially-patented symmetrical loop construction, anchors it into position and *holds it in place indefinitely.*

Too, the specially-designed picker stick hole includes "forward tilt". Another Dayton feature which insures *correct shuttle contact.* For the complete story write:

TEXTILE PRODUCTS DIVISION
DAYTON RUBBER
*Main Sales Office: Woodside Building, Greenville, S. C.*
*Factory: Waynesville, N. C.*

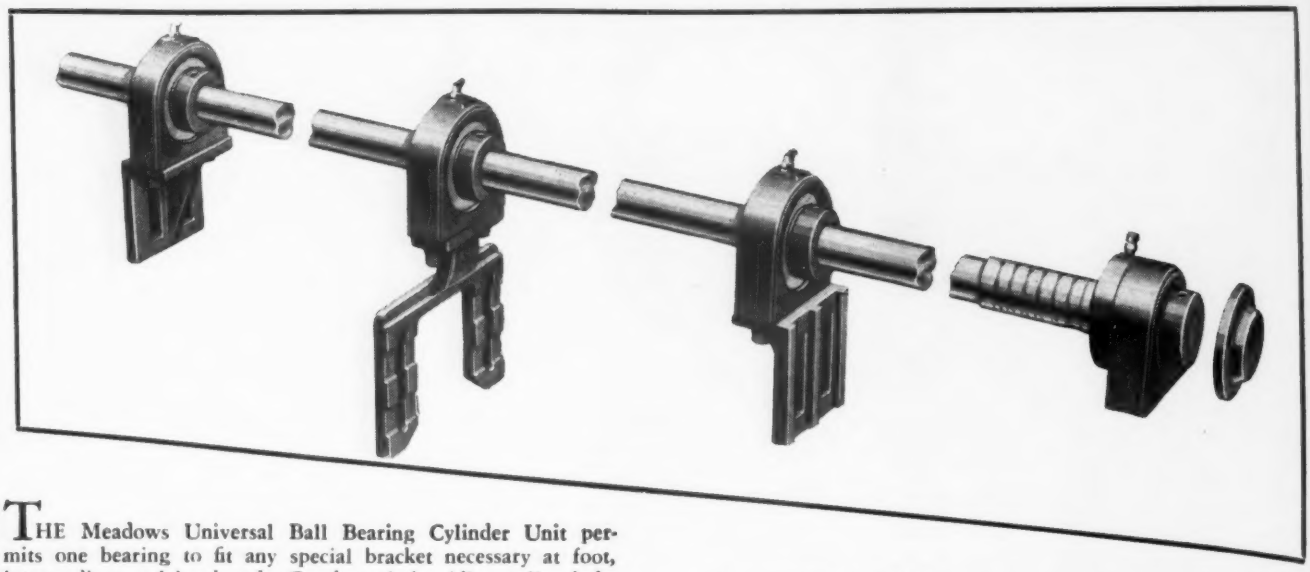
**ADDITIONAL REASONS WHY YOU SHOULD SPECIFY DAYTON LOOP PICKERS**

- Loom can be boxed the same at all times.
- Keep their shape.
- Easy to install—fit the stick.
- Made of especially woven fabric.
- Roughness reduced to absolute minimum.
- Jerked-in fillings are reduced to a minimum.
- Cuts picker costs as much as 50%.
- Only picker built to stand pounding of high-speed loom.
- "Stay put" on stick.
- All pickers uniform in size.

# Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

# MEADOWS HEAVY DUTY *Universal* BALL-BEARING CYLINDER UNITS



THE Meadows Universal Ball Bearing Cylinder Unit permits one bearing to fit any special bracket necessary at foot, intermediate and head ends. Quadrant hubs, idler pulley hubs and outboard caps can be used as needed.

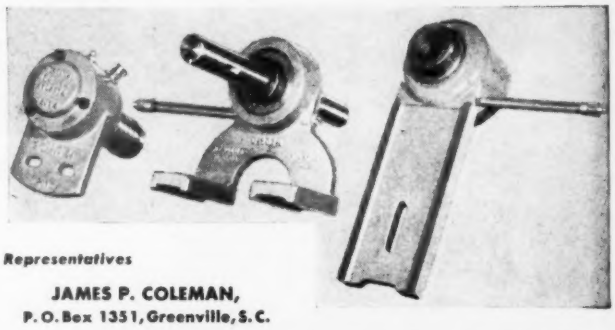
We particularly recommend these Universal Bearings when new oversize journals are installed. At this time all bearings can be standardized to one size for long, trouble-free operation and stock-room simplicity.

- **Fafnir Heavy-duty, self-aligning ball bearings.**
- **Double metal shields on both sides.**
- **Completely interchangeable in various shaft sizes on supporting brackets.**
- **Requires lubrication only once every 5000 hours, or roughly twice a year.**
- **No felt seals for troublesome installations and high initial friction drag.**
- **Brackets for bearings furnished to your requirements.**

We have ample stocks of these bearings and most housings for prompt shipment. *Repair and maintenance item.*

We also have in stock ample supplies of SAE 1035 ground and polished +.000 - .001 shafting for journals. We strongly recommend installing these high strength, precision journals when applying ball bearings.

Also standard Fafnir design Ball Bearing Cylinder Units to replace plain bearing units in Whitin, Saco-Lowell, Saco-Pettee, H & B, Lowell & Mason, and Hall-Stell or Prince Smith frames.



***Representatives***

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**P. O. Box 1351, Greenville, S. C.**

**WALTER S. COLEMAN,**
**P. O. Box 722, Salisbury, N. C.**

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**93-A Broadway, Providence, R. I.**

**MEADOWS MANUFACTURING CO. · ATLANTA, GA.**

**. . . . Ball-Bearing Specialists to the Textile Industry . . . .**

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for printing bright, fast colors
on cotton, rayon and linen at low cost

- bright clear colors
- wide color range
- excellent fastness to washing
- very good fastness to light
- readily soluble
- quick ageing
- easily applied
- available in powder and solution form
- can be printed alongside indanthrenes and algosols
- combine quality with economy

*we will be glad to furnish formulas and technical data*

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# FACTORS

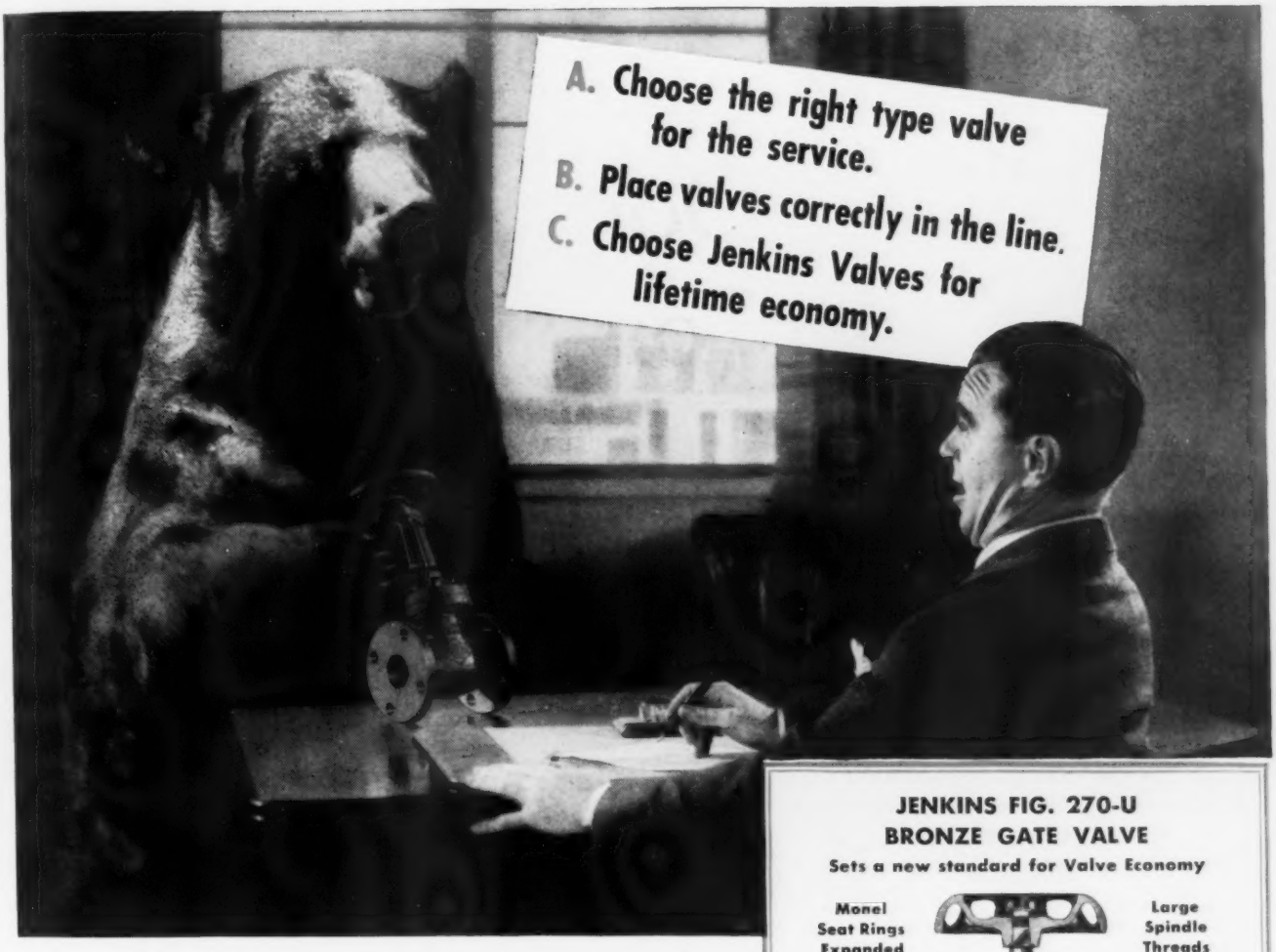
## For Manufacturers and Merchants

***Inquiries as to our services solicited***

●

ESTABLISHED 1840

# It's a Bear at cutting down Maintenance!


A. Choose the right type valve for the service.
B. Place valves correctly in the line.
C. Choose Jenkins Valves for lifetime economy.

THIS SIMPLE ABC FORMULA, plus intelligent treatment and care of valves, is paying extra dividends in valve economy throughout industry.

When you choose Jenkins Valves, you can be sure they'll last far beyond the normal life expectancy of valves, even in the toughest service. You also get the expert advice of top-rated valve specialists, Jenkins Engineers, on any question of valve selection or placement.

Follow this formula when you need valves . . . it pays!

Jenkins Bros., 80 White Street, New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Limited, Montreal.

LOOK FOR THIS DIAMOND MARK

SINCE 1864

## JENKINS VALVES

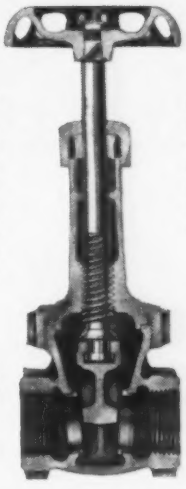
*Types, Sizes, Pressures, Metals for Every Need*

Sold Through Reliable Industrial Distributors Everywhere

### JENKINS FIG. 270-U BRONZE GATE VALVE

**Sets a new standard for Valve Economy**

**Monel Seat Rings Expanded in Body**
Monel metal used is about 2½ times the hardness of valve body bronze — gives exceptional resistance to erosion and corrosion.



**Large Spindle Threads Last Longer**
Reduce wear to a minimum and insure easy operation. Spindle metal is hard, tough manganese bronze.

**Exceptionally Rugged Body, Bonnet, and Bonnet Ring Add Strength**

**Deep Stuffing Box — More Packing**
Keeps packing tight with less friction.

Bronze wedge seats against MONEL seat rings expanded into body. Easily replaced, slip-on wedge takes wear. Proved in toughest services, the best combination to beat wear, reduce care. Write for complete details.

**ONE OF OVER 600 *EXTRA VALUE* VALVES MADE BY JENKINS *VALVE SPECIALISTS***

# "NEW CARD CLOTHING Will *pep up* Our Whole Mill!"

A good superintendent knows that high grade carding means increased operating efficiency in every other department . . . he realizes the importance of getting production off to the right start.

With new Tuffer card clothing on your cards you will increase production and obtain the quality so necessary for strong, even yarns. You know this means increased output in the card room, spinning room and in the weave room.

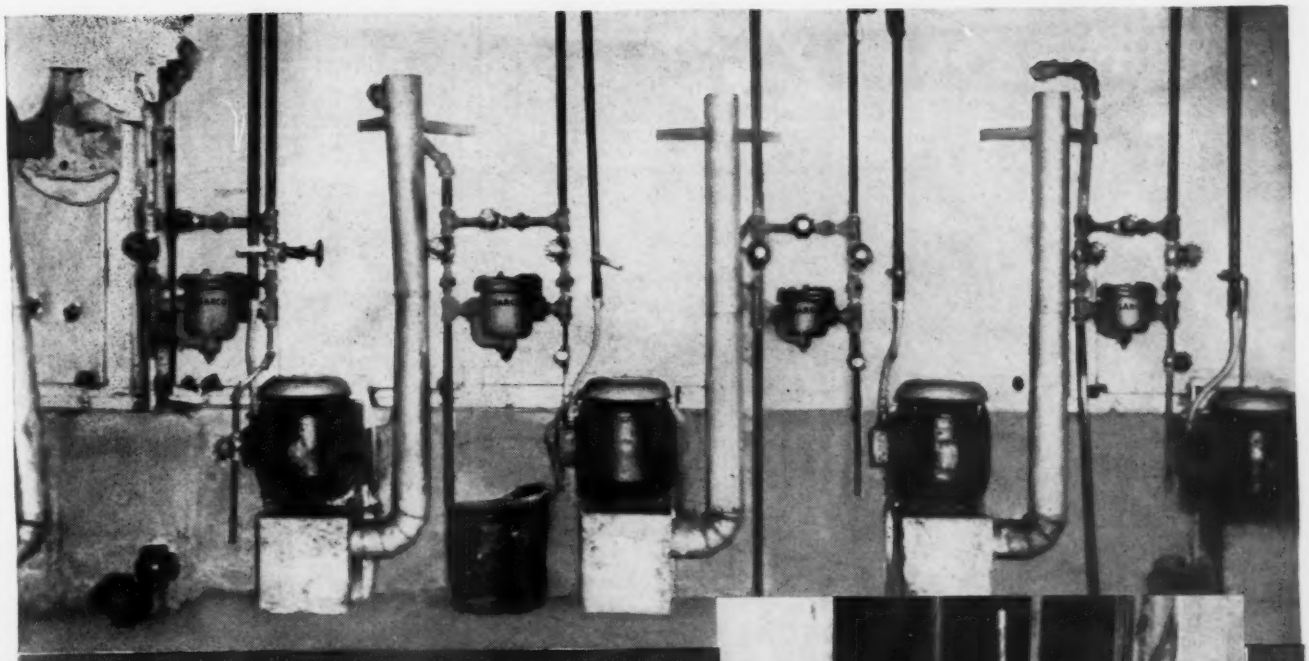
Let a Howard Bros. representative inspect your card clothing. He is qualified to make recommendations that will improve production throughout your mill!

**HOWARD BROS. MFG. CO.**
WORCESTER 8, MASSACHUSETTS

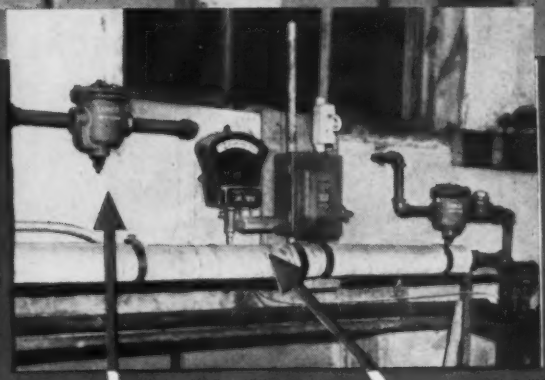
**Southern Plants:** Atlanta, Ga. and Gastonia, N. C. **Branches:** Philadelphia, Pa. and Blanco, Texas
Direct Representation in Canada

A-3

TUFFER CARD CLOTHING **IMPROVES PRODUCTION ALL ALONG THE LINE**



# PRECISION *Dyeing* WITH SARCO

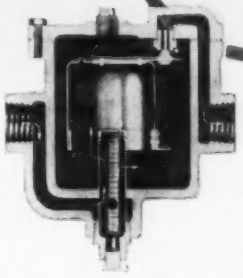


To make a profit in the textile finishing industry the work must keep moving and the colors must come out right. This means temperatures must be kept up in the drying boxes and very exact in the dye jigs, boxes and padder cans.

The top illustration shows how the steam coils in a large dry box are kept hot regardless of the amount of work going through. A Sarco Bucket Trap drains each coil.

At the right is the Sarco LSI Electric Control on the dye cans for the padders. This control is inexpensive and suitable for every step in the dyeing process. It keeps temperatures within a degree of the setting which may be changed instantly as many times as required for a single run of cloth.

Like most Sarco Products, these devices save three ways: in increased production, fewer rejects, and lower fuel cost. They provide flexibility of controlled temperature from rinse to boil-off. They pay for themselves in a few months. The Sarco Representative near you can show you how.



BUCKET

THIS IS THE STEAM TRAP

that can handle large volumes of condensate rapidly and efficiently. Built-in strainer and straight through connections reduce cost of installing. Ask for Catalog No. 350

THIS IS THE CONTROL

that keeps temperature right in the textile, food, chemical and plating industries. Ask for Catalog No. 1025

LSI

192

**SARCO** SAVES STEAM

**SARCO COMPANY, INC.**

*Represented in Principal Cities*

**Empire State Building, New York 1, N. Y.**

SARCO CANADA, LTD., TORONTO 5, ONTARIO

# How to add *Life* to your CARD CLOTHING

## *Watch out for Worn Feed Roll Bearings*

If feed roll bearings are worn more than 1/32 inch they can cause "plucked in" laps which will in turn cause bruised and jammed cylinder fillets, damaged lickerins or even broken mote knife brackets. This is because the vertical "play" between the gudgeon and the top of the bearing makes the weighting partially inoperative.

Therefore one of the most effective ways to add life to your card clothing is to replace worn feed roll bearings promptly and to clean and lubricate bearings regularly.

Worn feed roll bearings are only one of many defects which can cause poor carding and shorten the life of your card clothing. Inspection at regular intervals by men specially trained for the job is the best way to detect and eliminate these defects. An Ashworth service man is well qualified to do the job and this service will cost you nothing. Ask us about it.

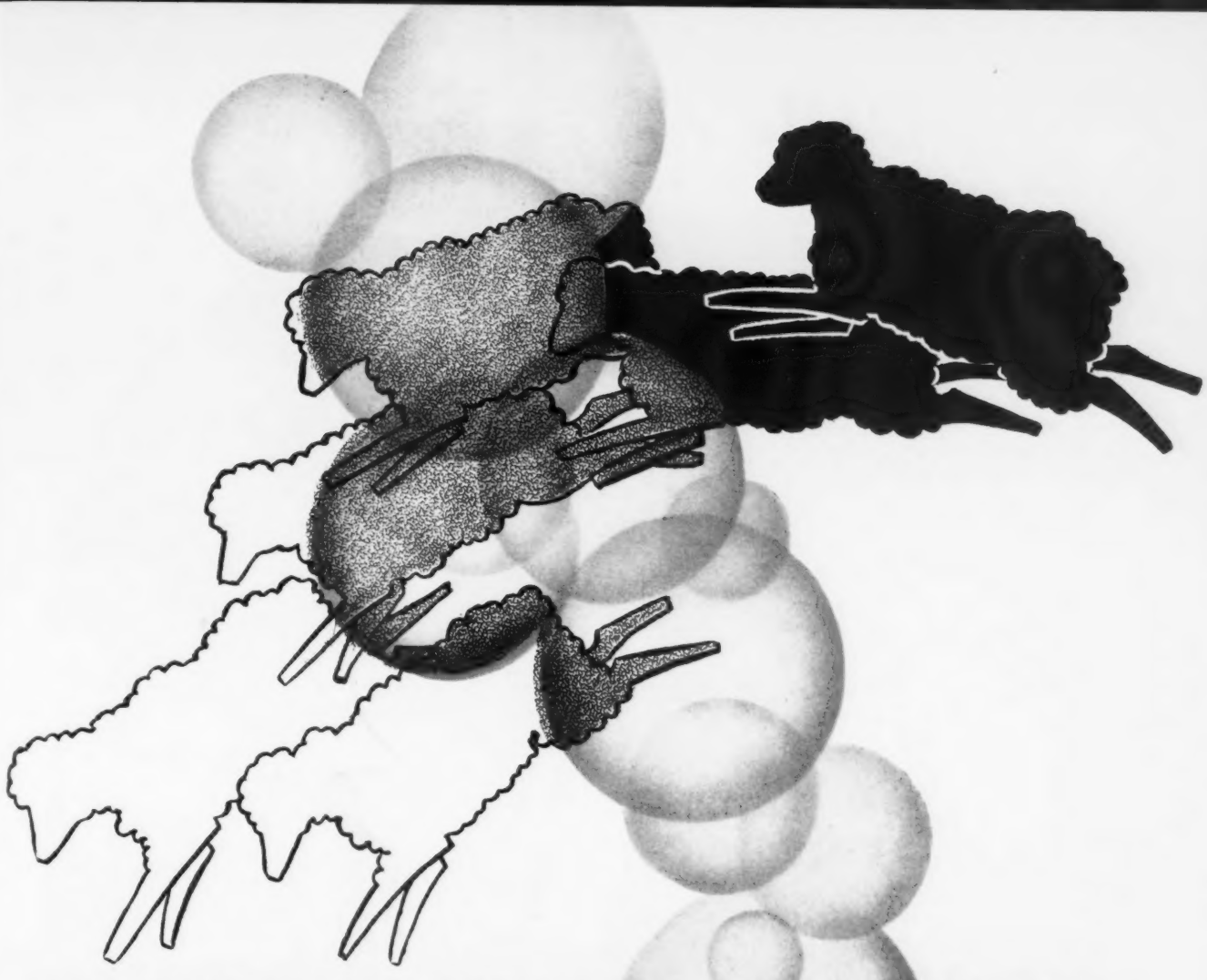
### PRODUCTS AND SERVICES

**Card Clothing For Cotton, Wool, Worsted, Silk, Rayon And Asbestos Cards And For All Types Of Napping Machinery · Brusher Clothing And Card Clothing For Special Purposes · Lickerin Wire And Garnet Wire · Sole Distributors For Platt's Metallic Wire Lickerins And Top Flats Reclothed**

*Ashworth* PIONEERS IN CARD CLOTHING

**ASHWORTH BROS., INC.**
**AMERICAN CARD CLOTHING CO. (Woolen Div.)**
Fall River*†‡ Worcester*‡ Philadelphia*†‡
Atlanta†‡ Greenville†‡ Charlotte†‡
Dallas†‡ (Textile Supply Co.)
*Factory †Repair Shop ‡Distributing Point

**3 FACTORIES · · · 6 REPAIR SHOPS · · · 7 DISTRIBUTING POINTS**



# SCOURS WOOL FASTER

## COSTS LESS THAN SOAP
## DOES MORE THAN SOAP

# NACCONOL* NR

**AMERICA'S LEADING SYNTHETIC DETERGENT**

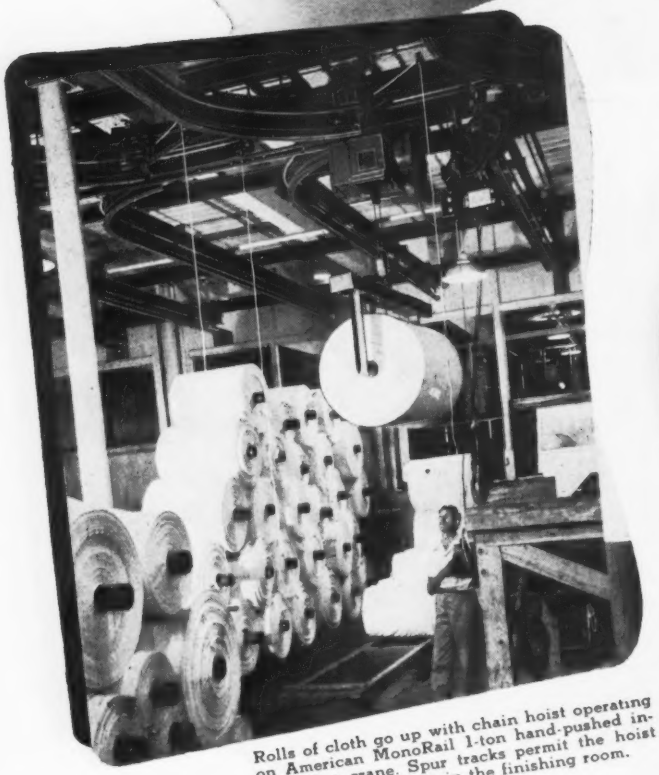
Additional production now available. Inquiries invited.

* Reg. U.S. Pat. Off.

**National Aniline** DIVISION • ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR ST., NEW YORK 6, N.Y. • BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • SAN FRANCISCO • PORTLAND, ORE. GREENSBORO • CHARLOTTE • ATLANTA • NEW ORLEANS • CHATTANOOGA • TORONTO

# Cloth Rolls go UP and OVER



Rolls of cloth go up with chain hoist operating on American MonoRail 1-ton hand-pushed interlocking crane. Spur tracks permit the hoist to serve all machines in the finishing room.

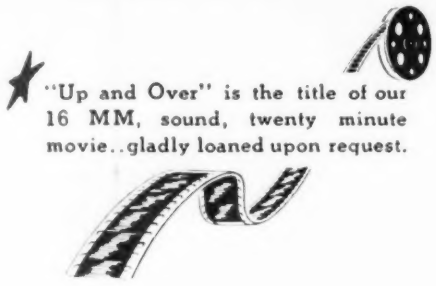
American MonoTractor carries rolls, by finger tip control, over storage stacks in this bleachery.

Many textile mills are eliminating much of their floor congestion by installing American MonoRail "Up and Over"* Handling Systems.

In these particular mills, cloth rolls are raised and transported overhead to other departments. Increased production at lower costs has resulted.

With "Up and Over" type of handling from receiving to shipping, an overhead track or crane system does a better, quicker job with less maintenance.

Let an American MonoRail engineer show you how an overhead system will increase your production and pay for itself in a very short time.

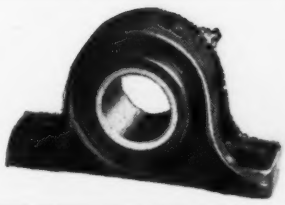


**"Up and Over" is the title of our 16 MM, sound, twenty minute movie..gladly loaned upon request.**

**THE AMERICAN MONORAIL COMPANY**

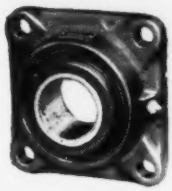
**13108 ATHENS AVENUE** **CLEVELAND 7, OHIO**

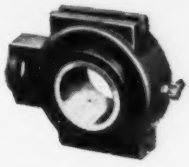
**A full line of bearings calls for a full range of mountings—the Link-Belt line of ball and roller bearings offers just this—to meet all conditions of service efficiently. Some of the Link-Belt ball bearing mounted units are shown below:**



**1** P-200 Pillow Blocks are compact, easy to mount and adjust. Open or closed end. Base affords space to drill for dowel pins.

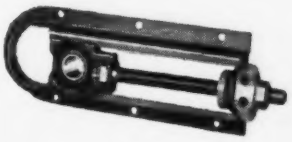
**2** H-200 Hanger Unit mounts two single row ball bearings in dumb-bell housing. Fits standard hanger frames.





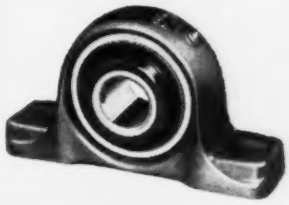
**3** F-200 Flange Units. Open or closed end, with machined face, and space for dowelling to supporting structure. Can be used as step bearings on vertical shafts.

**4** T-200 Ball Bearing Take-Up Unit permits varying shaft position to adjust belt, chain, etc. Furnished without frame guides or adjusting screw.



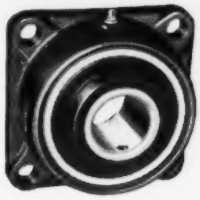
**5** TAS-200 Light duty take-up. Pressed steel frames and cadmium plated adjusting screw.

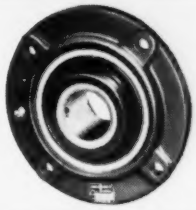
**6** TBS-200 Cast base take-up, with ball bearings correctly proportioned for each shaft size, occupy minimum space.



**7** TDS-200 Take-up recommended where severe shock loads are expected. Center bar furnished on 24" movement and over.

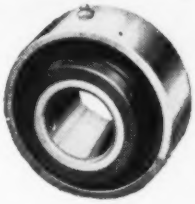
**8** P-300 (Fixed Type) and PE-300 (Floating Type) Pillow blocks. Compact, slotted bolt holes, space for drilling base for locating dowel pins.

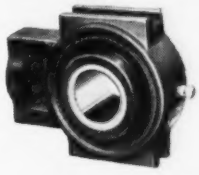




**9** F-300 (Fixed Type) and FE-300 (Floating Type) Flange Units, can be used as step bearings for vertical shafts.

**10** FC-300 and FCE-300 Flange Cartridge Units provide simple mountings for use in cast or welded frames.





**11** C-300 and CE-300 Cartridge Units are ideal for machine frames. Shaft may be removed from machine without disturbing bearing assembly.

**12** T-300 Ball Bearing Take-up Unit allows shaft movement to adjust belts, chains, etc.

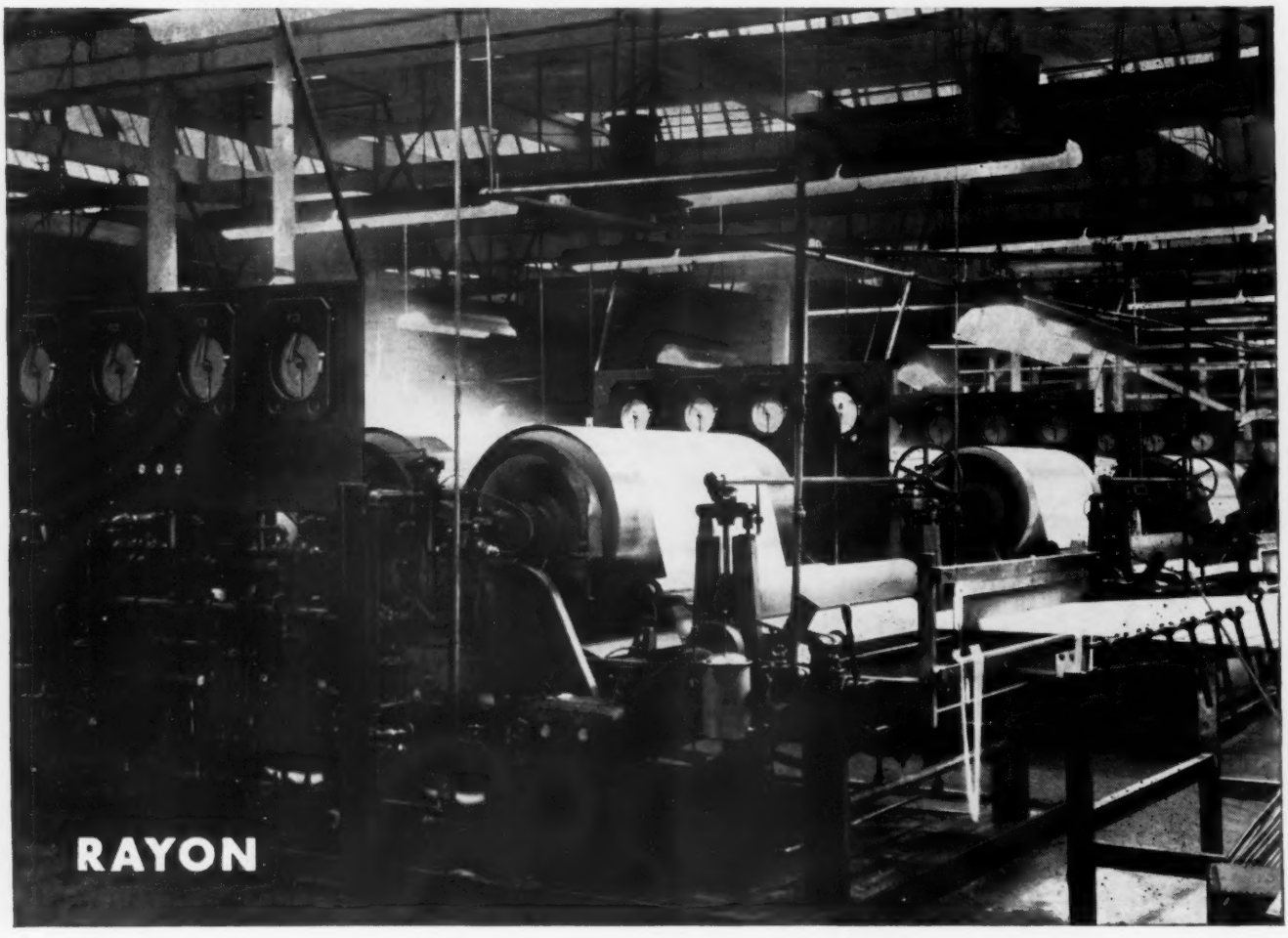
**LINK-BELT**

**BALL AND ROLLER BEARINGS**

**LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Dallas 1, Houston 2, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. Offices, Factory Branch Stores and Distributors in Principal Cities.** 10,898

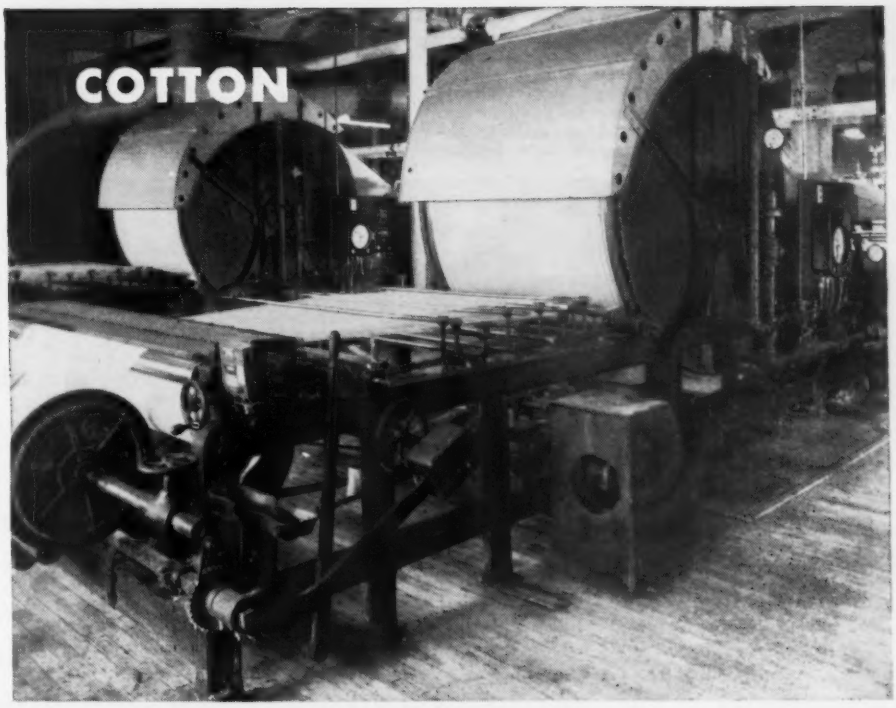
# We cover the slasher

COMPETITION is getting steadily tougher. Prices, material and labor costs are sky-high. Production efficiency is the key to continuing profits—and that's where we come in. Today, accurate Taylor Slasher Controls are helping rayon, cotton and worsteds manufacturers alike to keep quality up and costs down. We believe there's an answer to your processing problems in dependable automatic Taylor Cylinder Control plus Taylor Cooking Kettle, Storage Kettle, and Size Box Control. May we hear from you?
Taylor Instrument Companies, Rochester, N. Y., and Toronto, Ontario.
*Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*




Hoosac Mill, North Adams, Mass., weavers of fine rayon fabrics. Every slasher has a battery of four Taylor Fulscope Recording Temperature Controllers maintaining the desired cylinder temperature and keeping an accurate minute-by-minute temperature record.

# front-




Consolidated Textile Co., Inc., Lynchburg, Virginia. "With these controls we have reduced the amount of starch used, reduced shedding in weave room, increased our efficiency, and the cloth weights have been more uniform . . . "—J. H. Burgess, Asst. Supt.

Cleveland Worsted Mills, Cleveland, Ohio. Here, as in the other illustrations, the entire operation is run by Taylor Fulscope Controllers. Size preparation, as well as the hot air slasher itself, is automatically controlled.

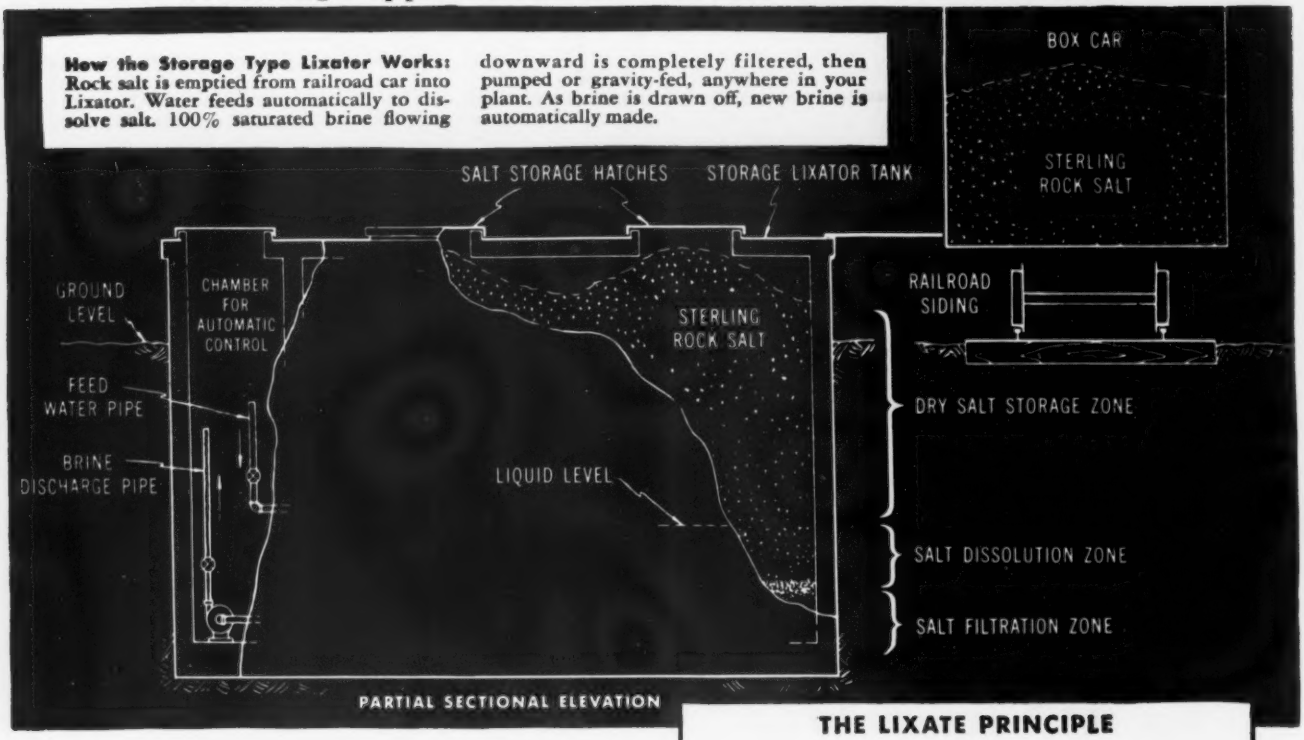
*Taylor Instruments*

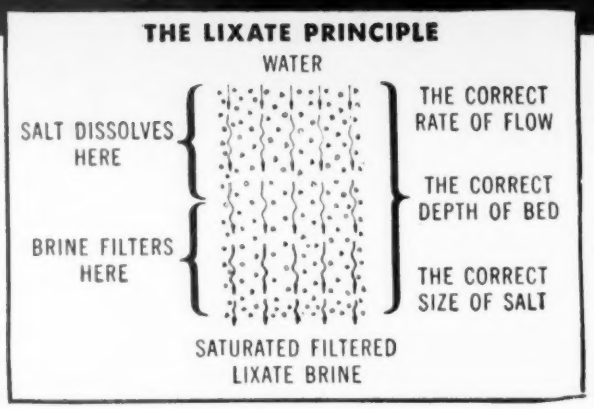
MEAN

ACCURACY FIRST

IN HOME AND INDUSTRY

## A Storage Type Lixator Unit Suitable for a Textile Mill


How the Storage Type Lixator Works: Rock salt is emptied from railroad car into Lixator. Water feeds automatically to dissolve salt. 100% saturated brine flowing downward is completely filtered, then pumped or gravity-fed, anywhere in your plant. As brine is drawn off, new brine is automatically made.
BOX CAR
STERLING ROCK SALT
SALT STORAGE HATCHES
STORAGE LIXATOR TANK
GROUND LEVEL
CHAMBER FOR AUTOMATIC CONTROL
FEED WATER PIPE
BRINE DISCHARGE PIPE
STERLING ROCK SALT
LIQUID LEVEL
RAILROAD SIDING
DRY SALT STORAGE ZONE
SALT DISSOLUTION ZONE
SALT FILTRATION ZONE
PARTIAL SECTIONAL ELEVATION




## DAN RIVER MILLS' Storage Type Lixator Produces 8000 Gallons of Saturated, Filtered Brine per hour

# "It Paid for itself in One Year"

**Says W. B. CARROLL,**
*Superintendent of Dyeing*

Once, salt had to be handled *eight different times*—even before it was dissolved by hand labor into brine—at Dan River Mills, Riverside Division, Danville, Va.

Today, Sterling Rock Salt is unloaded from railroad cars into an 8000-gallon-per-hour Storage Type Lixator right beside the tracks. From the Lixator, 100% saturated, clean, crystal clear, self-filtered brine flows automatically by pipe to the nearby stock dyehouse... *and 3,700 feet across the Dan River to the suiting dyehouse.*

The entire installation paid for itself within a year, thanks to operating economies made possible by the expertly designed, International Storage Type Lixator.

With long years of experience behind them in cooperating with the textile industry, International engineers are thoroughly familiar with the uses of salt as brine in dyeing machines and vats and for regenerating zeolite water softeners. In every use the Storage Type Lixator eliminates salt handling and waste. Its brine making capacity always equals your needs. It is a completely automatic system, delivering the exact quantity of brine required at every point of use.

Full details of how the Storage Type Lixator can save you man-hours and money and boost your production efficiency will gladly be furnished. Simply fill out and send the attached coupon.

INTERNATIONAL SALT COMPANY, INC.
Dept. TW-10, Scranton, Pa.
*Gentlemen:*
I would like complete information about the Storage Type Lixator.

*Name* _____

*Firm* _____

*Street* _____

*City* _____ *State* _____

*The* **LIXATE** *Process*
Reg. U. S. Pat. Off.
*for making brine*
**INTERNATIONAL SALT COMPANY, INC.**
**Scranton, Pa.**

# CURRENT DELIVERY* ON A HYSTER FORK-TYPE LIFT TRUCK, STRADDLE TRUCK OR KARRY KRANE

Hyster "20"

**GO TO YOUR HYSTER DISTRIBUTOR FOR CURRENT DELIVERY**

ALASKA
Northern Commercial Co.
BROOKLYN, N. Y.
A. S. Rampell
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Rapids Handling Equipment Co.
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A. R. Williams Machy. Western, Ltd.
CHICAGO, ILL.—Hyster Company
CINCINNATI, O.—Oral T. Carter & Associates
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DALLAS, TEX.—C. H. Collier Company
DENVER, COLO.—Paul Fitzgerald
DETROIT, MICH.—Bentley & Hyde
HALIFAX, NOVA SCOTIA
A. R. Williams Machy. Co., Ltd.
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MONTREAL, P. Q.—A. R. Williams Machy. Co., Ltd.
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PITTSBURGH, PA.—Equipco Sales Company
PORTLAND, ORE.—Hyster Sales Company
ST. JOHNS, N. F.—City Service Company, Ltd.
ST. LOUIS, MO.—Wharton L. Peters
SALT LAKE CITY, UTAH—Arnold Machinery Company
SAN FRANCISCO, CALIF.—Hyster Company
SEATTLE, WASH.—Hyster Company
TORONTO, ONT.—A. R. Williams Machy. Co., Ltd.
VANCOUVER, B.C.—A. R. Williams Machy. Western, Ltd.
VICTORIA, B.C.—A. R. Williams Machy. Western, Ltd.
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In addition to above, Hyster Export Dealers are located in 30 foreign countries.

**HYSTER COMPANY**

*THREE FACTORIES*

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**NOW** you can get what you've NEEDED SO LONG. Expanded Hyster factory facilities make CURRENT DELIVERY possible.

Hyster "40"

## 7 HYSTER TRUCKS—ALL ON PNEUMATIC TIRES

| | |
|---|---|
| HYSTER "20" FORK TYPE..... | 2,000 lbs. Capacity |
| HYSTER "40" FORK TYPE..... | 4,000 lbs. Capacity |
| HYSTER "75" FORK TYPE..... | 7,500 lbs. Capacity |
| HYSTER "150" FORK TYPE..... | 15,000 lbs. Capacity |
| HYSTER KARRY KRANE..... | 10,000 lbs. Capacity |
| HYSTER "M" STRADDLE TRUCK.... | 12,000 lbs. Capacity |
| HYSTER "MH" STRADDLE TRUCK... | 30,000 lbs. Capacity |

Hyster "75"

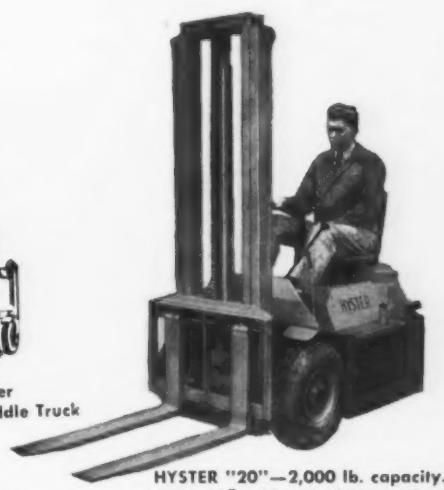
*Hyster Parts and Service Everywhere—See Your Nearest Distributor for Materials Handling Advice—for Catalogs.*

Hyster "150"

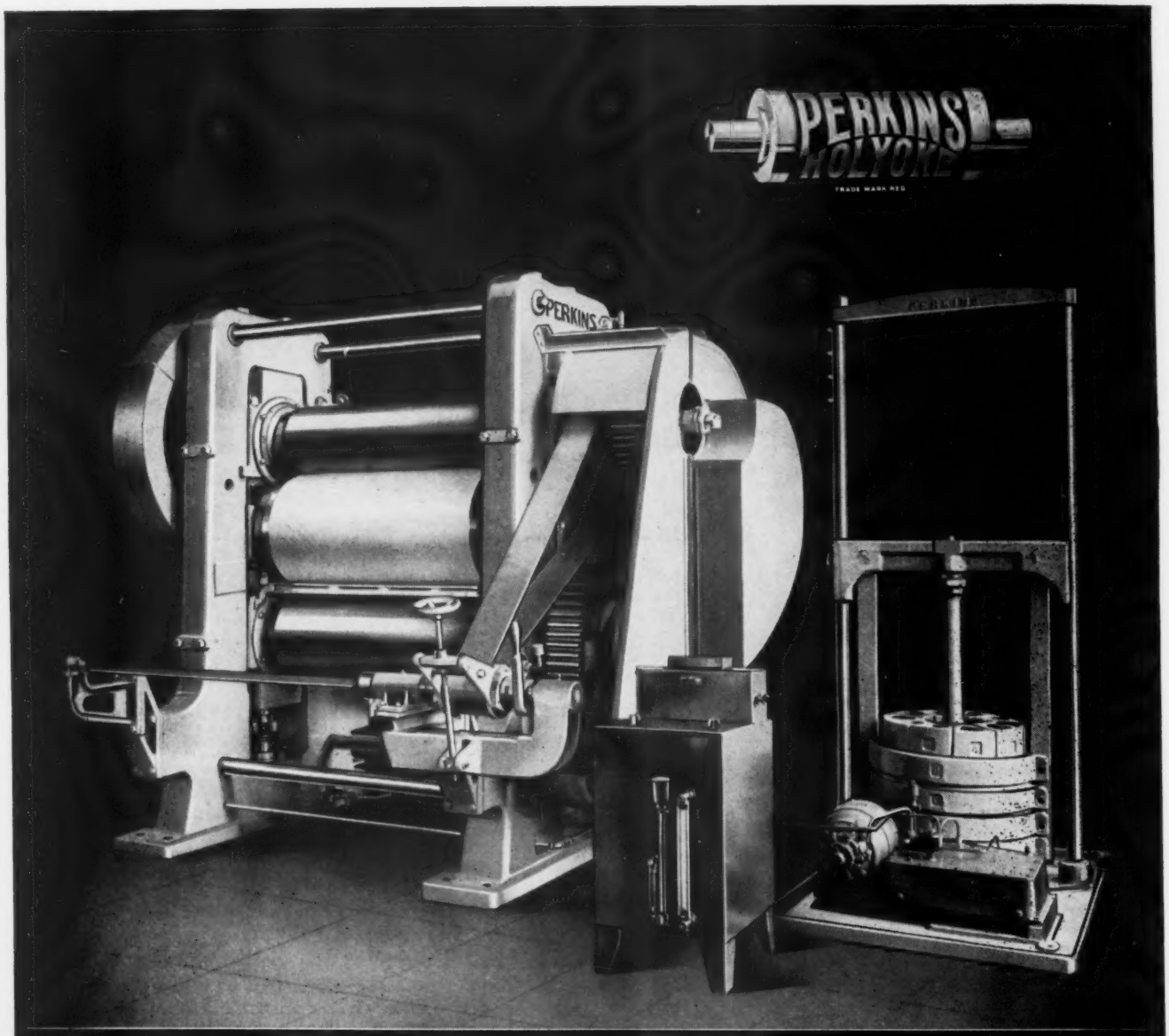
*In a few restricted areas certain Hyster models are not immediately available due to heavy demands by certain industries, but increased Hyster production will soon relieve this situation.

Hyster Karry Krane

Hyster Straddle Truck



HYSTER "20"—2,000 lb. capacity. Only 37" wide. Ideal for work in narrow aisled factories, warehouses and in box cars.




TYPICAL of PERKINS engineering and rugged construction is this three-roll 46" HYDRAULIC FRICTION CALENDER, 60-ton pressure. All rolls in Timken anti-friction bearings. PERKINS CALENDERS—high factor of safety . . . simplicity of design . . . backed by long record of quality service in the textile industry.

# B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

The weaver in this progressive southern mill consults with a Gulf Lubrication Engineer (right) on loom lubrication.

# "With *Gulf Quality Lubricants* we have very low maintenance costs"

—says this Weaver

*"We've yet to see any other repair costs that are as low as ours"*

"Year in and year out our maintenance costs have been consistently low, thanks in large measure to Gulf quality lubricants. They give us an extra margin of protection against costly breakdowns and repairs. This protection, plus a sound lubrication program recommended by the Gulf Lubrication Engineer, helps us get maximum performance from all our machinery."

Perhaps improved operating efficiency and savings in maintenance and power costs can be obtained in your mill. Investigate—ask a Gulf Lubrication Engineer to recommend the proper application of oils and greases exactly suited to each machine. Gulf Lubrication Engineering Service—and the complete Gulf line of over 400 quality lubricants—can be quickly secured through your nearest Gulf office.

GULF INDUSTRIAL LUBRICATION

**Gulf Oil Corporation · Gulf Refining Company**

Division Sales Offices:

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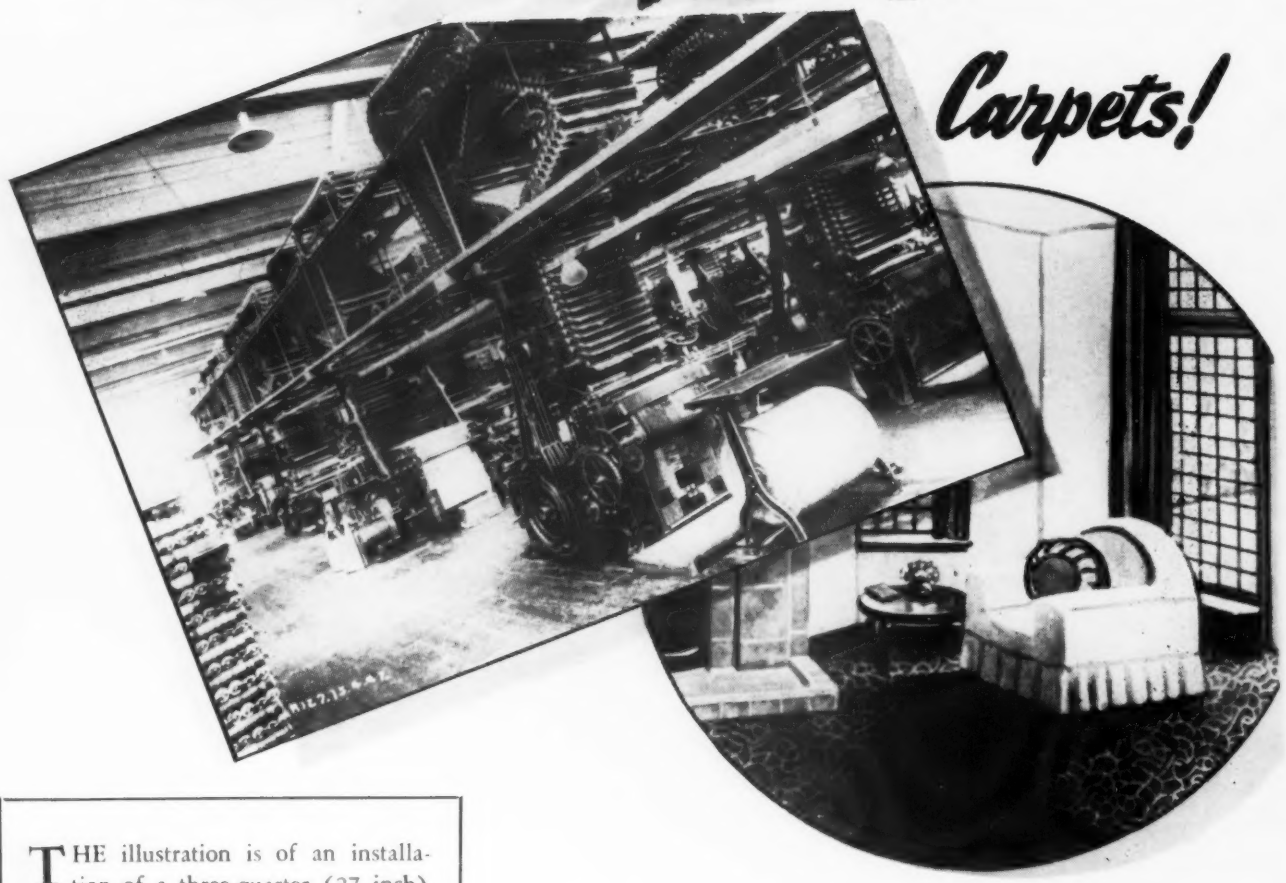
New Orleans · Houston · Louisville · Toledo

# ★ towards the house of TO-MORROW

## Carpets!



THE illustration is of an installation of a three-quarter (27 inch) Platt's Axminster Carpet Looms of the double needle, single insertion, split shot type, the effective production of which greatly exceeds that of older models working on the double insertion system.

**Table of Loom sizes and recommended working speeds.**

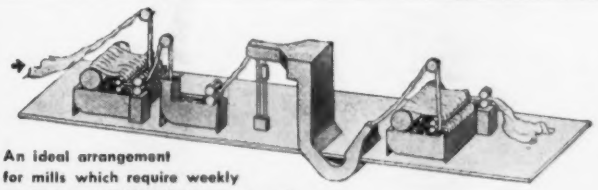
| Reed Space | Speed |
|---|---|
| 18 inches | 30 rows of tufts per minute |
| 22½ " | 29 " |
| 27 " | 28 " |
| 32 " | 27 " |
| 36 " | 26 " |
| 45 " | 25 " |
| 48 " | 24 " |
| 54 " | 23 " |
| 90 " | 17 " |
| 108 " | 16 " |

**PLATT BROTHERS (SALES) LTD.**
**OLDHAM ENGLAND**

# DU PONT

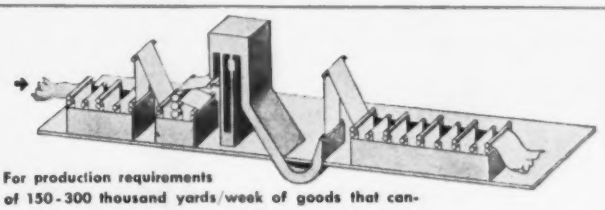
## *has a Continuous Peroxide Bleaching System for most bleaching needs*

**ONE-STAGE ROPE SYSTEM**



An ideal arrangement for mills which require weekly production of 200-500 thousand yards of goods averaging 3 yards pound or lighter.

**ONE-STAGE OPEN-WIDTH SYSTEM**



For production requirements of 150-300 thousand yards/week of goods that cannot be rope-processed—especially successful with a wide range of heavy fabrics.

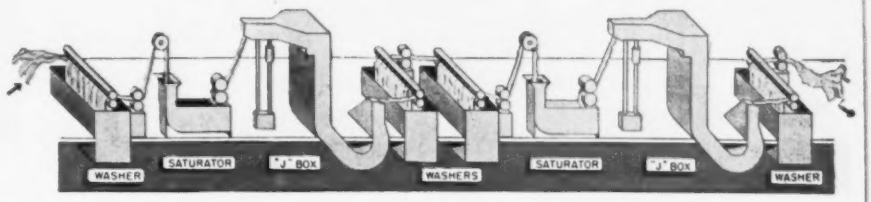
**LOOK INTO THESE SYSTEMS NOW!**

*You'll find them . . .*

1. **Just what you need** to produce quality bleaching at lower over-all costs.
2. **Flexible**—readily adapted to speedy, uniform processing.
3. **Easy to set up,** operate and control.
4. In use by **many leading mills.**

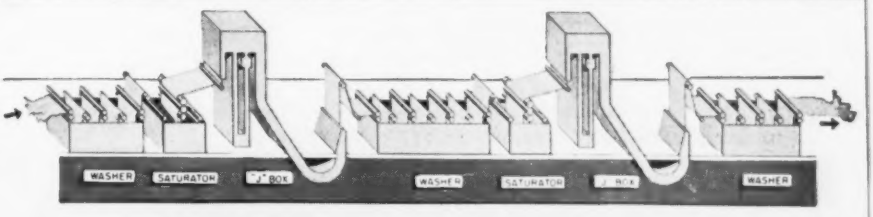
**TWO-STAGE ROPE SYSTEM**

For processing a wide variety of fabrics; print cloths, sheetings, shirting, shade cloth, etc.; handles 1-⅜—1-½ million yards/week of 4 yd. goods.

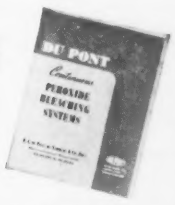



**TWO-STAGE OPEN-WIDTH SYSTEM**

For cloth that cannot be handled in rope form. Operating speed generally between 75 and 125 yards/minute. Any degree of bleaching obtained by adjusting peroxide strength.



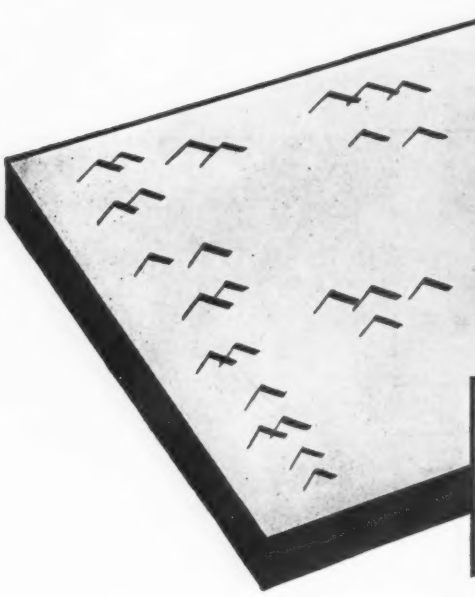

## Send for this NEW BOOK!




*It shows typical continuous bleach layouts designed to fit the requirements of various plants. For a copy just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.*

UNION PACIFIC

TREASURE MAP OF INDUSTRY



# Wyoming

- VAST SUPPLY OF COAL, IRON AND PETROLEUM
- LEADING LIVESTOCK STATE
- TREMENDOUS WOOL CLIP
- IMPORTANT MARKETING CENTER OF POULTRY AND DAIRY PRODUCTS
- LARGE PRODUCER OF SUGAR BEETS, POTATOES AND GRAINS
- EXCELLENT TRANSPORTATION
- OUTSTANDING SCENIC AND RECREATIONAL ATTRACTIONS
- HEALTHFUL LIVING CONDITIONS

*One of a series of advertisements based on industrial opportunities in the states served by the Union Pacific Railroad.*

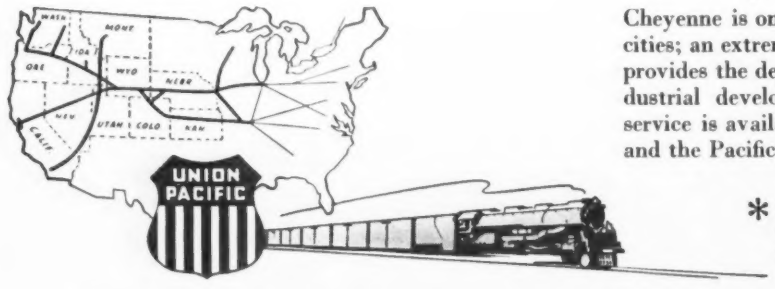
In Wyoming manufacturers will find a vast amount of raw materials. It is a leading state in potential mineral resources; produces great quantities of iron . . . has the world's largest untapped supply of coal. Copper, silver, gold, lignite and bentonite are among the mined metals and minerals. The State contains 27 oil fields and large timber lands.

Wyoming is one of the greatest of livestock States, producing fine beef cattle. Its wool clip is tremendous. Poultry raising and dairying are important activities. Principal crops are sugar beets, potatoes and grains.

The healthful climate . . . scenic and recreational attractions such as Yellowstone-Grand Teton National Park and scores of dude ranches . . . a fine educational system . . . are incentives to living in this western region.

★ ★ ★ ★

Cheyenne is one of the principal Union Pacific mainline cities; an extremely important point to the railroad which provides the dependable transportation so essential to industrial development. For travelers, daily Streamliner service is available from Cheyenne to and from Chicago and the Pacific Coast.




* *Address Industrial Department, Union Pacific Railroad, Omaha 2, Nebraska, for information regarding industrial sites.*

**UNION PACIFIC RAILROAD**

*THE STRATEGIC MIDDLE ROUTE*

IT takes a tough filament to weave an upholstery fabric that defies the hard wear it must take in automobiles or in public places. Resistance to dirt and chemicals, glorious colors, easy workability . . . these are added points of sale that give SARAN top rating in innumerable upholstery applications.

Available now in greater quantities and in diameters as fine as .005", there's every reason for the growing swing to SARAN.

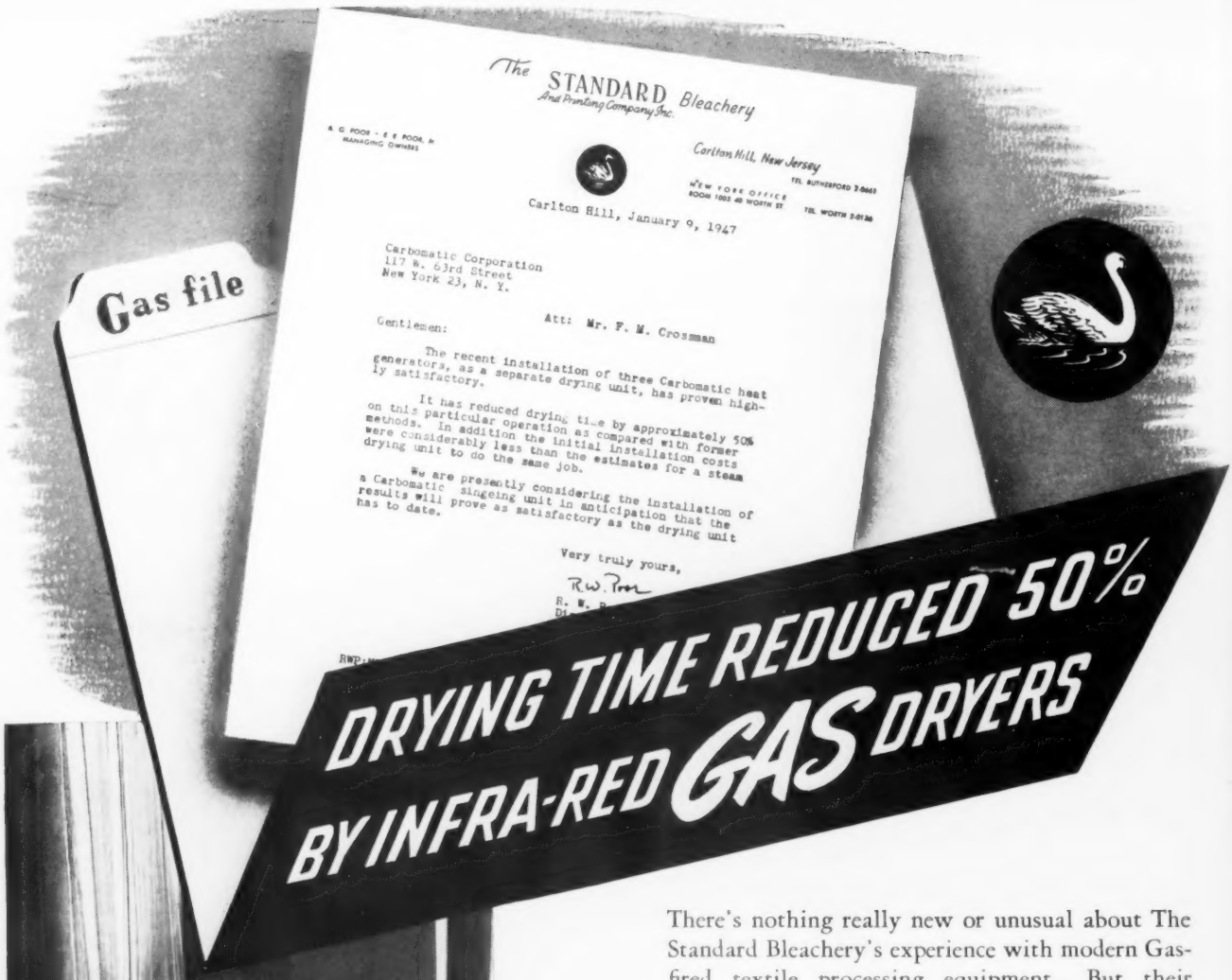
SARAN BY NATIONAL denotes monofilament, tape and rattan manufactured by The National Plastic Products Company from Saran, a vinylidene chloride copolymer made by The Dow Chemical Company and supplied to mills, weavers and other fabricators for specific end uses.

TRADE MARK REG. U.S. PAT. OFF.

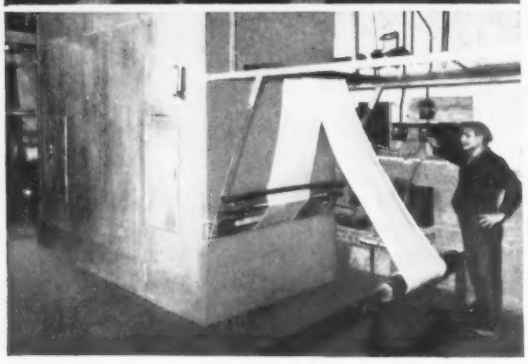
# The NATIONAL Plastic Products Company

ODENTON • MARYLAND

NEW YORK: EMPIRE STATE BUILDING • LOS ANGELES: BANKERS BUILDING


Gas file
The STANDARD Bleachery
And Printing Company, Inc.
Carlton Hill, New Jersey
Carlton Hill, January 9, 1947
Carbomatic Corporation
117 W. 63rd Street
New York 23, N. Y.
Att: Mr. F. M. Crossman
Gentlemen:
The recent installation of three Carbomatic heat generators, as a separate drying unit, has proven highly satisfactory.
It has reduced drying time by approximately 50% on this particular operation as compared with former methods. In addition the initial installation costs were considerably less than the estimates for a steam drying unit to do the same job.
We are presently considering the installation of a Carbomatic singeing unit in anticipation that the results will prove as satisfactory as the drying unit has to date.
Very truly yours,
R.W. Poor
DRYING TIME REDUCED 50% BY INFRA-RED GAS DRYERS

**Interior of dry-box showing arrangement of Gas-fired ceramic burner drying unit**



**Bleachery dry-box equipped with Gas-fired infra-red ceramic burners**

There's nothing really new or unusual about The Standard Bleachery's experience with modern Gas-fired textile processing equipment. But their records of approximately 50% reduction in drying time serve to confirm the results in dozens of plants.

In fabric singeing, too, Gas-fired infra-red burners have achieved quite astonishing success. At cloth speeds of 300 to 500 yards per minute both sides of the fabric can be singed at one time, so that rewinding is eliminated; no flame penetrates the cloth to scorch or weaken the fibers.

GAS is the ideal fuel for textile processes requiring heat. The flexibility of Gas Equipment, and the controls which automatically maintain the exact temperatures for any type or weight of cloth, permit the application of GAS right in production line for drying, polymerizing, curing, slashing.

**Whenever you need heat for textile processing it will pay to check with your local Gas Company Representative.**

**MORE AND MORE...**

**THE TREND IS TO GAS**

FOR ALL INDUSTRIAL HEATING

## AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

# REPUBLIC *Enduro* STAINLESS STEEL

*Made of Republic ENDURO Stainless Steel, this dye beam presents a typical application for long-lasting ENDURO in the textile processing industry. Other applications include dry cans, tank and vat linings, tables, valves, reels, hosiery forms and many more.*

## *Assures "True" Colors*

Natural immunity to dye bath chemicals and bleaches . . . ease of cleaning that permits lightning-fast change from dark to light colors without danger of color carry-over . . . smooth, sanitary surfaces which have no effect upon the most delicate color shades . . . these are but a few of the reasons why it pays to specify Republic ENDURO Stainless Steel in your dyeing and bleaching equipment.

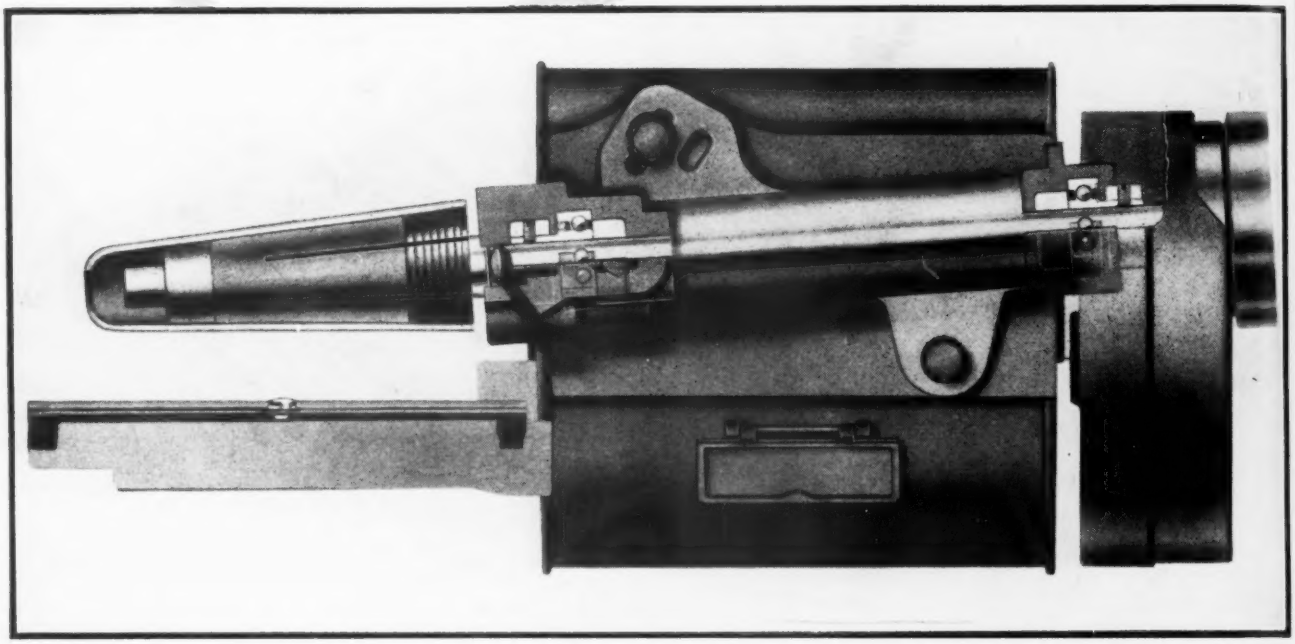
For the *complete* story about ENDURO Stainless Steel and its many money-saving applications throughout the textile industry, write for a free copy of Republic's new 20-page Booklet No. 444.

**REPUBLIC STEEL CORPORATION**
*Alloy Steel Division • Massillon, Ohio*
**GENERAL OFFICES • CLEVELAND 1, OHIO**
Export Department: Chrysler Building, New York 17, N. Y.

*Republic*
REPUBLIC STEEL
Reg. U. S. Pat. Off.
**ENDURO STAINLESS STEEL**

**Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Strip, Plates, Bars, Wire, Pig Iron, Bolts and Nuts, Tubing**

# LESS HORSEPOWER— LESS SPINDLE REPLACEMENT



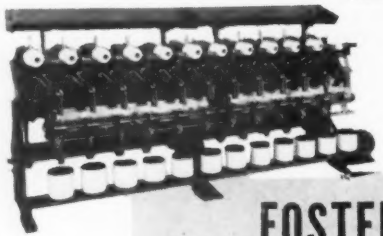
# More for Your Money with FOSTER MODEL 75

THE FOSTER MODEL 75 is equipped with ball bearing spindles that effectively reduce power consumption so that a 30 spindle machine requires only one 2 h.p. motor. In addition, the ball bearing spindle improves the mechanical performance of the winder, protects the yarn from oil spots, and operates indefinitely without replacement. These characteristics add up to more for your money with Foster Model 75.

**OTHER IMPORTANT FEATURES OF THE MODEL 75 ARE AS FOLLOWS:**

1. Winds standard Foster convex base cones, or, with special added attachment, pineapple cones.
2. When equipped to wind pineapple cones the starting traverse may be varied between 4″ and 6″.
3. Depending on type of yarn and other conditions, cone density may also be varied between 40 and 70 by Durometer reading.
4. A slow starting device prevents yarn strain.
5. Total enclosure of lubricated parts prevents yarn soilage.

**FOSTER MACHINE CO.**
**WESTFIELD, MASSACHUSETTS**
*Southern Office — Johnston Bldg., Charlotte, N. C.*
*Canadian Representative — Ross Whitehead & Co., Ltd., University Tower Bldg., 660 Ste. Catherine St., West, Montreal, Quebec*



*BULLETIN A-92-A ON REQUEST*

## FOSTER MODEL 75

*For Winding Nylon, Rayon, Silk and Cotton Thread Yarns*

Saco-Lowell 1935 Model Long Draft Spinning Frames at Mount Vernon-Woodberry's Tallassee Mills, Tallassee, Alabama, are anchored the new, easy, economical way—on UNISORB.

Spinning frames specifications: 4" gauge, 2¾" ring, 264 spindles, 9" traverse.

Tallassee is but one of the many large mills who have contributed to the fast-growing trend to "Mount it on UNISORB" . . . no bolts, no screws, no more of the old, destructive floor drilling. Shortened installation time, installation costs cut. *Absorption of from 60% to 85% of transmitted vibration and noise.* By controlling vibration, UNISORB-mounting helps reduce machine down-time, tends toward lowered plant and building expenses resultant from excessive vibration.

By reducing noise, UNISORB-mounting decreases worker fatigue, promotes better work and greater production.

UNISORB can be used on any type of flooring with practically every type of machinery and equipment.

Send for sample and complete specifications—ask for your free, illustrated copy of "Why it Pays to Anchor Your Machines with UNISORB."

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

**THE FELTERS COMPANY**

**210-W SOUTH STREET, BOSTON 11, MASSACHUSETTS**

*Offices:* New York, Philadelphia, Chicago, Detroit.
*Sales Representatives:* San Francisco, St. Louis.
*Southern Representative:* Industrial Supply Co., Clinton, S. C.
*Southwest Representative:* Textile Supply Co., Dallas, Texas
*Mills:* Johnson City, N. Y.; Millbury, Mass.; Jackson, Mich.

*Foreign Representatives*: ARGENTINA—PARAGUAY: Roberto Zander, 345-353 Juan Jaures, Buenos Aires; BRAZIL: Cia Industria E. Comercio, Glossop, Rua Visconde de Inhauma, 62, Caixa Postal, 265, Rio de Janeiro; Rua Florencio de Abreu 438/442, Caixa Postal, 1546, Sao Paulo; CHILE: W. L. Robinson, Casilla No. 4075, Santiago; COLOMBIA: C. E. Halaby & Co., Ltd., Airmail Box 650, Medellin; URUGUAY: Roberto Zander, Montevideo Ltda., Calle Uruguay, 1711, Montevideo; VENEZUELA: Herbert Zander & Co., P. O. Box 1291, Caracas; MEXICO: I. Slobotzsky, Avenida Uruguay 55, Aparrado 1192, Mexico, D. F.; EUROPE: Switzerland, Ernest Gersbach, Zurich; EASTERN MEDITERRANEAN AREA: The Arlind Corp., 509 Madison Avenue, New York 22, N.Y.

# BARBER-COLMAN

# TEMCHRON

## electronic

## SIZE COOKING CONTROL

- *Electronically* controls the cooking temperature at any point from 100°F to 210°F.
- *Automatically* governs the length of time for bringing the cold size mixture up to cooking temperature—adjustable from 15 to 90 minutes.
- *Electronically* sets and maintains the temperature at which the cooked size will be held until it is removed from the kettle — within a range of 100°F to 210°F.
- *Automatically* times the length of the cooking cycle for a predeterminable period of from 20 to 180 minutes.

## LIGHTS INDICATE...

- When the size mixture is being raised to cooking temperature.
- When the size is cooking.
- When the cooking is completed and the mixture is at the desired holding temperature.

# SIZE COOKING CONTROL

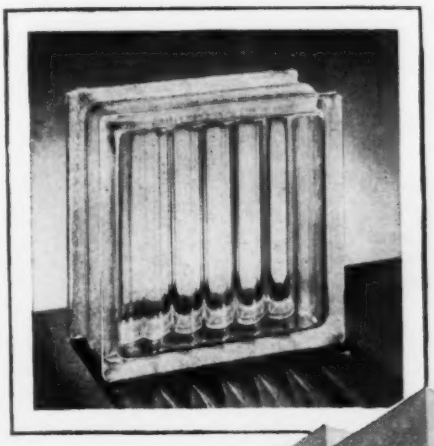
TEMCHRON, the only *completely electronic* time-temperature cycle controller, provides hitherto unattainable accuracy, flexibility, and reliability. Identical cycling is assured from batch to batch, for any dial settings, yet simple adjustments permit cycle changes as required by different size formulas. Changes in any part of the cycle — warm-up time, cooking temperature, cooking time, or holding temperature — can be made *by simply resetting calibrated dials.* Write today for Bulletin F-3054 describing details and applications of TEMCHRON, *another Unit of Complete Slasher Control by Barber-Colman.*

*Barber-Colman Company*

45 YEARS EXPERIENCE SERVING TEXTILE MILLS

ROCKFORD ILLINOIS | BOSTON MASSACHUSETTS | GREENVILLE SOUTH CAROLINA | GREENSBORO NORTH CAROLINA | ATLANTA GEORGIA

# The modern material for modern buildings



# PC GLASS BLOCKS

Architect: S. J. Kessler
General Contractors: K & L Construction Co., Inc.

Modern appearance, modern efficiency, modern economy—those are the main advantages you get with PC Glass Blocks.

Panels of gleaming glass blocks make any textile mill a thing of beauty. Spacious interiors, with plenty of cheery clear daylight, are pleasant places to turn out good work. And the light can be directed to where it is needed most, even to areas remote from light openings.

PC Glass Blocks are hollow, have definite insulating properties. Heat losses through light transmitting areas are reduced to the minimum. Desired temperatures are easier to maintain and condensation is minimized. Infiltration of destructive dust and grit is prevented.

These are some of the reasons why many mill managers are using PC Glass Blocks for new construction and for modernizing projects. You will want to know all the advantages you get with PC Glass Blocks. Send the coupon today for our authoritative booklet. The Pittsburgh Corning Corporation also makes PC Foamglas Insulation.

**PC GLASS BLOCKS . . . the mark of a modern building**

PITTSBURGH PC CORNING

GLASS BLOCKS

Distributed by PITTSBURGH PLATE GLASS COMPANY
by W. P. Fuller & Co. on the Pacific Coast and
by Hobbs Glass Ltd. in Canada

Pittsburgh Corning Corporation
Room 666, 632 Duquesne Way
Pittsburgh 22, Pa.

Please send along my free copy of your new book on the use of PC Glass Blocks for Industrial Buildings. It is understood that I incur no obligation.

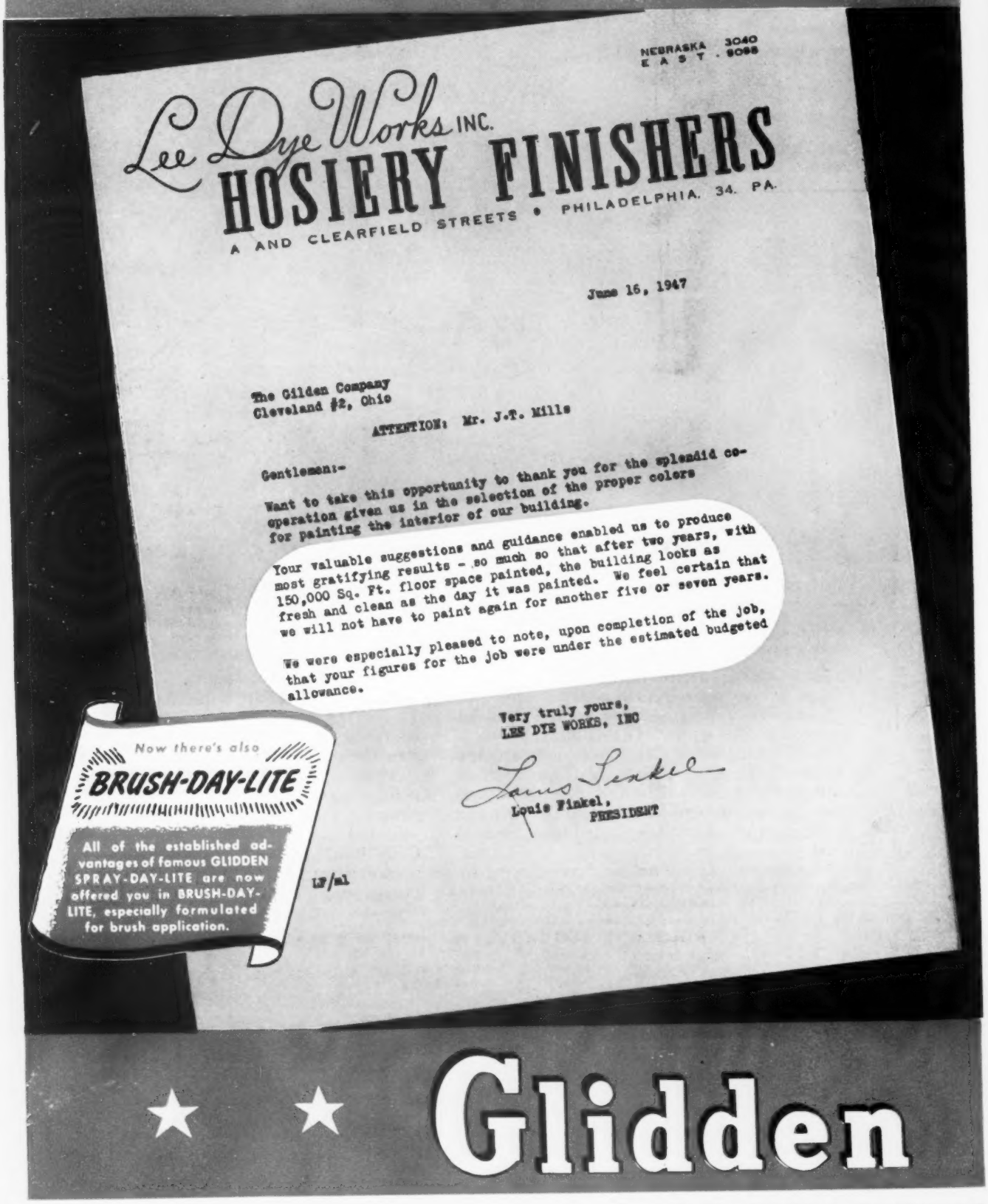
Name_____

Address_____

City_____ State_____

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS

# More proof of *LASTING* satisfaction when the paint used in plants is....



NEBRASKA 3040
E A S T . 8098

Lee Dye Works INC.
HOSIERY FINISHERS
A AND CLEARFIELD STREETS • PHILADELPHIA. 34. PA.

June 16, 1947

The Gilden Company
Cleveland #2, Ohio

ATTENTION: Mr. J.T. Mills

Gentlemen:-

Want to take this opportunity to thank you for the splendid co-operation given us in the selection of the proper colors for painting the interior of our building.

Your valuable suggestions and guidance enabled us to produce most gratifying results - so much so that after two years, with 150,000 Sq. Ft. floor space painted, the building looks as fresh and clean as the day it was painted. We feel certain that we will not have to paint again for another five or seven years.

We were especially pleased to note, upon completion of the job, that your figures for the job were under the estimated budgeted allowance.

Very truly yours,
LEE DYE WORKS, INC

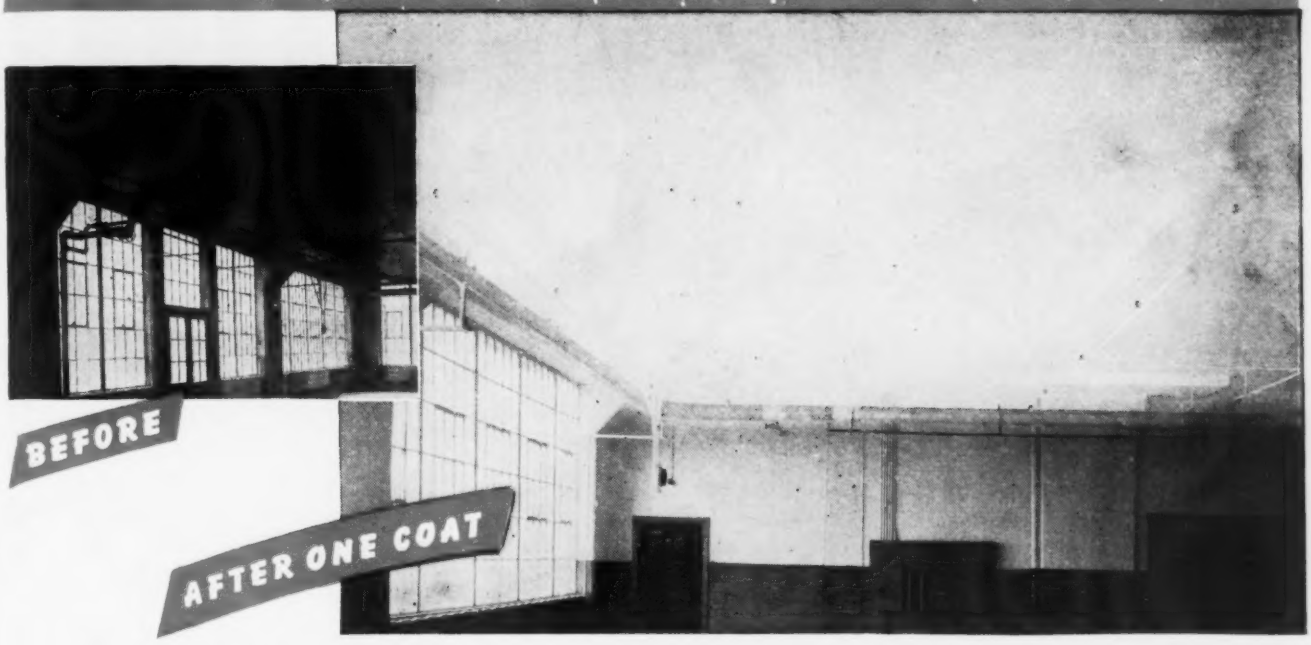
Louis Finkel
Louis Finkel,
PRESIDENT

LF/ml

Now there's also
BRUSH-DAY-LITE
All of the established advantages of famous GLIDDEN SPRAY-DAY-LITE are now offered you in BRUSH-DAY-LITE, especially formulated for brush application.

★ ★ Glidden

# SPRAY-DAY-LITE




## Specify GLIDDEN SPRAY-DAY-LITE ... It's your best buy for interior painting on all these counts...

1. SPRAY-DAY-LITE gives conventional two-coat results in only one coat.
2. Increases lighting efficiency by giving maximum light reflection and diffusion.
3. Provides smooth, solid covering over grimy, dirty and badly discolored surfaces of almost any type.
4. Its intense white does not yellow with age (also available in 10 attractive colors).
5. Durable, eggshell finish eliminates eye-straining glare—washes like tile.
6. Sprayed or brushed, it does not sag or run; produces little fog or mist when sprayed.

**FREE!** **A PRACTICAL GUIDE TO "SIGHT PERFECTION" IN PLANTS BY GLIDDEN COLOR AUTHORITIES**

Tells and shows how to follow scientific, E-Z-C Color Planning in painting interiors and machines to ease eyestrain, boost production, reduce accidents. Send coupon for it today. If you don't find all the guidance you need in this book, the Glidden Color Studio will design color plans tailored to your particular needs—without charge.

**HERE'S A COUPON IT WILL PAY YOU TO MAIL TODAY!**

**THE GLIDDEN COMPANY, Dept. T-9**
**11001 Madison Avenue, Cleveland 2, Ohio**

- ☐ You may send your book on the scientific use of color in industrial plants, "Sight Perfection."
- ☐ You may send your SPRAY-DAY-LITE Color Chart showing the 10 attractive shades and suggested color combinations.
- ☐ You may have your representative call and demonstrate SPRAY-DAY-LITE in our premises without obligation on our part.

NAME_____

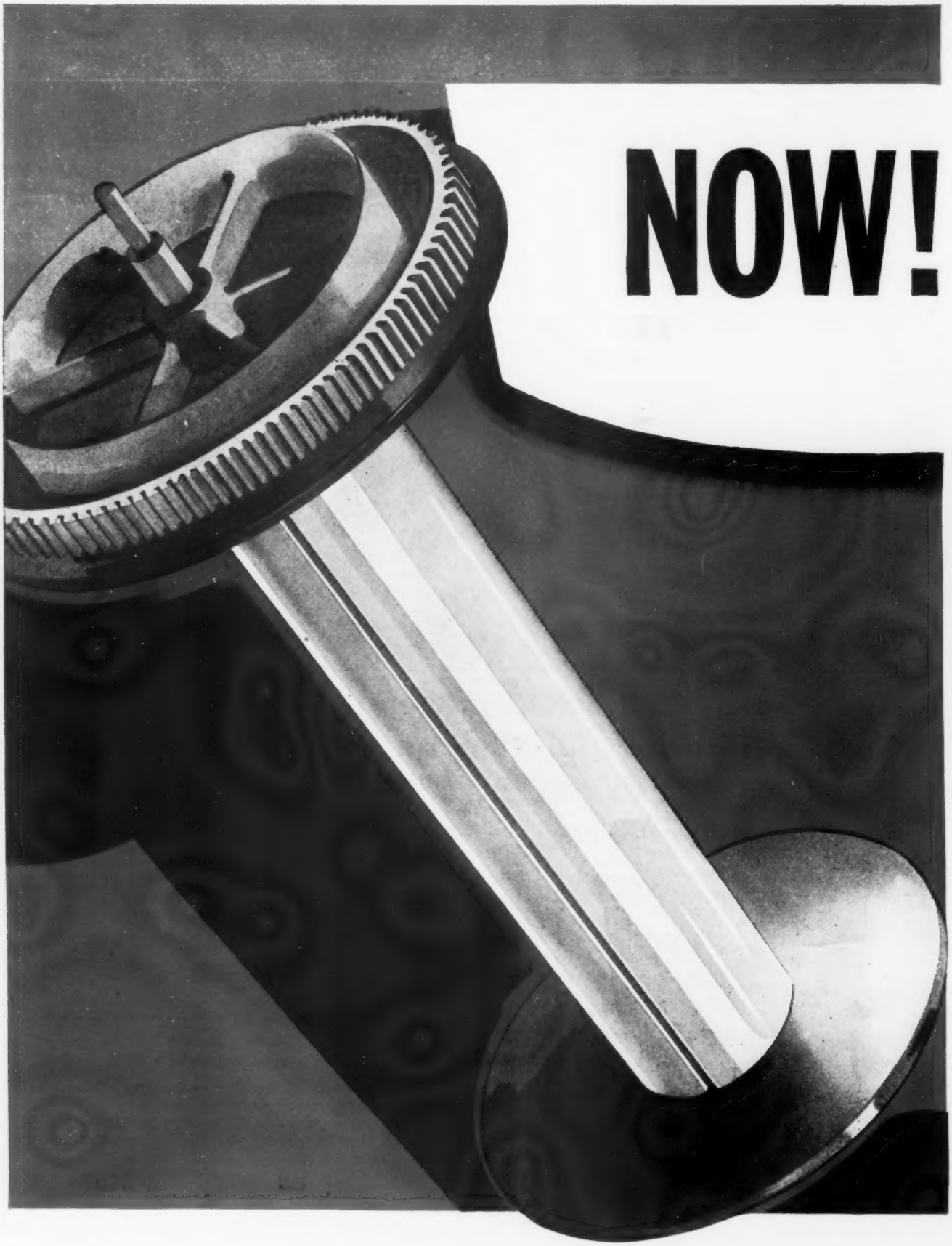
COMPANY_____ TITLE_____

ADDRESS_____

CITY AND STATE_____

TIME-TESTED

*Pacemaker in Paints*




MORE PEOPLE WANT MORE ALUMINUM FOR MORE USES THAN EVER

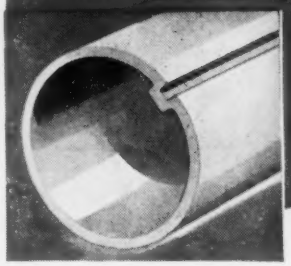
## YOU CAN REBUILD YOUR

# LOOM BEAMS

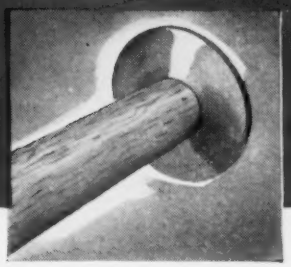
## BETTER THAN NEW

**A new and better way for you to rehabilitate your loom beams! You can replace the worn-out wooden barrels with barrels of Alcoa Aluminum, specially designed for this application.**

**With your heads and shafts in good condition, barrel replacement in your own machine shop is a simple operation. The result is a beam better than before, for these reasons:**

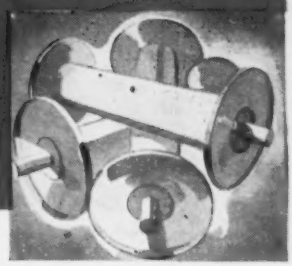


**1 Smooth barrel stays smooth.** Aluminum formed by extrusion to correct profile.

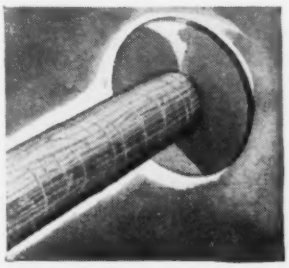


**2 No splintering or warping.** Rough handling, moisture changes don't affect aluminum.

**3 No staining of warp.** Aluminum is resistant to solution and acid atmosphere.



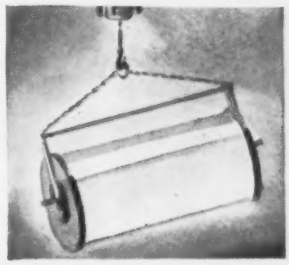
**4 Sturdy construction.** Thick sections withstand rough handling and stacking in storage room.



**5 No grooving or crushing.** Metal is better able to withstand pressures of synthetic yarns.

Start now on your loom beam rebuilding program, by replacing some of your worn-out wooden barrels with aluminum. You'll soon want more!

Order these Alcoa Aluminum Extrusions for the barrels of your loom beams, or ask for additional information and prices from the sales office nearest you. Or write ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh 19, Pennsylvania.



**6 Light weight.** Easy to handle, simplifies slasher drive problems.

# ALCOA FIRST IN ALUMINUM

IN EVERY COMMERCIAL FORM

# Unit Responsibility

# KEY TO MORE P

Here's proof of the value of unit responsibility! This modern weave room produces the highest quality product . . . most efficiently. Westinghouse planned engineering provides individual drives and controls, uniform illumination, and Precipitron, the electronic air cleaner that provides clean, pure air.

## "FROM OPENING TO FINISHING... ELECTRICAL AND POWER EQUIPMENT DESIGNED FOR EACH JOB"

The economical application of Westinghouse apparatus and electric power to textile mills has given the industry a new conception of speed, economy . . . *and* an improved product.

Whether it's a single motor drive, a complete power system, an individual lamp, or an entire lighting program . . . you need only contact one organization for your complete electrical requirements. From the start, Westinghouse has maintained a complete, separate Textile Department, staffed by competent engineers. These men are on the job full time producing better power equipment, and more efficient methods of applying, distributing, controlling and utilizing electric power for textile mills.

All this knowledge is yours for the asking . . . at Westinghouse. You'll get a speedy, accurate and simple solution to your textile problem.

Call your nearest Westinghouse office or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa. J-94755

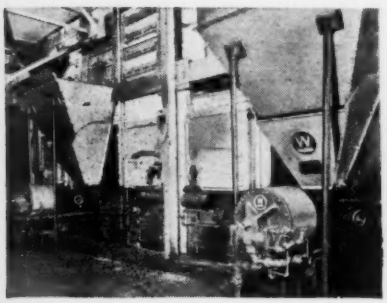
# PRODUCTIVE POWER

## "WESTINGHOUSE-EQUIPPED THROUGHOUT" MEANS SIMPLIFIED ORDERING, QUICKER INSTALLATION, MORE EFFICIENT OPERATION

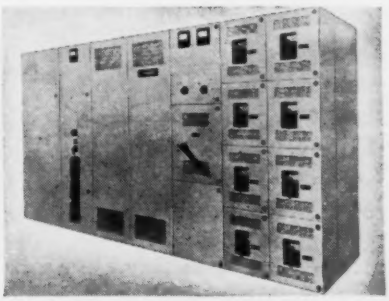
Putting power to work *productively* can be a major problem—or a simple one. When items must be selected, ordered and received from many sources, it means many chances for costly errors and delays . . . divided responsibility—or none at all—for performance of installed equipment.

Westinghouse offers the way to simplify the job. From equipment for generation of electrical or steam power, to the most specialized types of drives and control for its utilization, Westinghouse provides a single source of supply . . . one broad pair of shoulders competent to take responsibility for performance of all parts of the job.

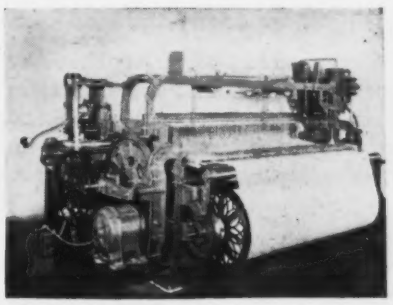
Here are a few of the places where Westinghouse unit responsibility prevents headaches . . . saves money . . . assures *more productive* power:



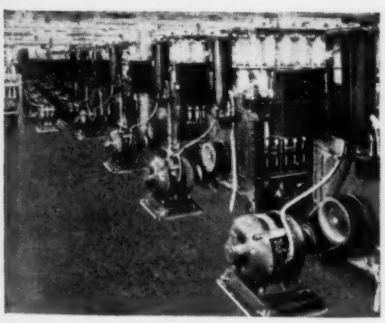
**STOKERS**—Ability to burn cheaper grades of fuel, and to eliminate smoke nuisance are two outstanding advantages of Westinghouse "Link-Grate" Stokers. These stokers fire the boilers supplying power and process steam in a New York textile mill.



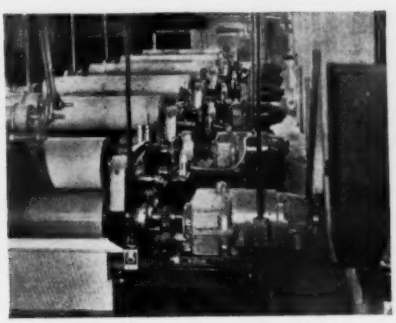
**SWITCHGEAR**—Westinghouse supplies a wide range of "Unitized" metal-clad switchgear that permits quick, economical installation. Unit shown contains a 750-kva air-cooled transformer, high-voltage metal-clad air breaker, and draw-out, low-voltage air circuit breakers.



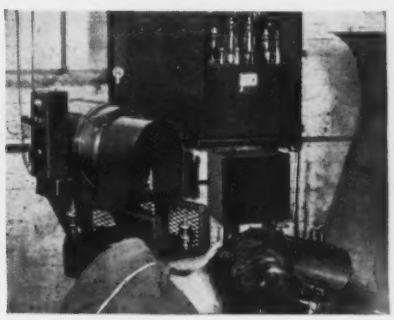
**LOOM MOTORS**—Westinghouse Loom Motors give maximum production with a minimum of power. Shown is a "weave room tested", specially-designed Westinghouse 1-1/2 hp loom motor driving a modern woolen and worsted loom.



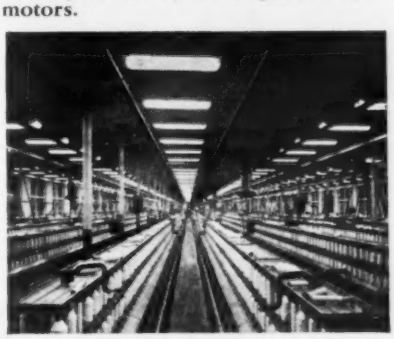
**LINT-FREE MOTORS**—Installation of spinning frames, driven individually by Westinghouse Lint-Free Motors and controls. They're specially designed to provide the "cleanest running textile motor available".



**GEARMOTORS**—Westinghouse Gearmotors greatly facilitate the application of power for machines with slow-speed input shafts. Illustrated is a range drive, powered by Westinghouse Gearmotors.



**MOT-O-TROL**—This flexible electronic control solves any control problem requiring wide-range stepless speeds and close automatic regulation at all speeds and varying loads.



**LIGHTING**—Modern fluorescent lighting provides maximum "see-ability" in this textile mill. Westinghouse "planned lighting" is added proof of the value of single-source responsibility.

**Westinghouse**

**PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE**

**MORE PRODUCTIVE POWER FOR INDUSTRY**

# TIME
## ...measured in service and performance!

No one can say how long a time, measured in days, months or years, a certain valve will give satisfactory performance. Naturally it will depend on the service conditions—how much the valve is operated and especially the kind of media it controls.

But we can say positively that a valve of absolutely correct design and materials for the conditions under which it operates will last far longer and require much less maintenance than a valve which does not fully meet these requirements.

That's the kind of valves you get when you standardize on the Powell Line for all your flow control requirements. Because through more than a century of making valves—and valves only—Powell has concentrated on developing a complete line of valves—in bronze, iron, steel and the widest range of corrosion-resistant materials ever used in making valves—to meet every requirement of modern industry.

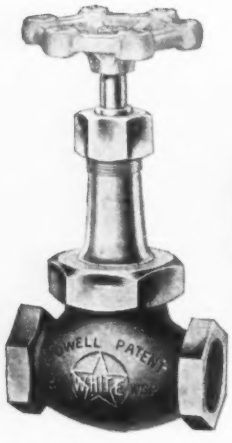



**Fig. 1708**—200-pound Bronze Globe Valve with screwed ends, union bonnet, renewable, specially heat treated stainless steel seat and regrindable, renewable, wear-resisting "Powellium" nickel-bronze disc.

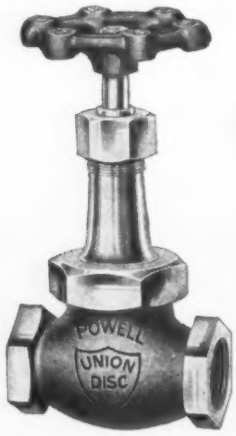



**Fig. 150**—150-pound Bronze Globe Valve with screwed ends, union bonnet and renewable composition disc.

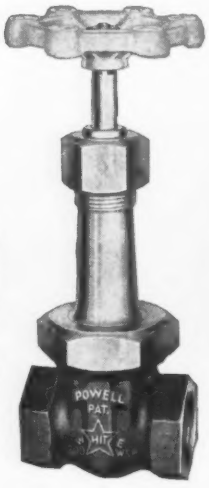



**Fig. 375**—200-pound Bronze Gate Valve with screwed ends, inside screw rising stem, union bonnet and renewable, wear-resisting "Powellium" nickel bronze disc.

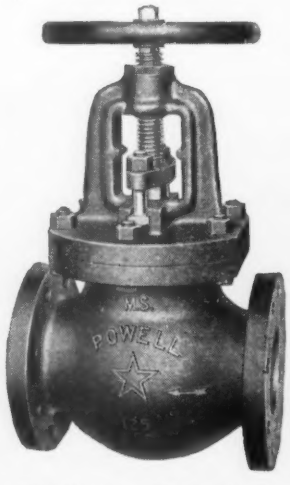



**Fig. 241**—Large 125-pound Iron Body Bronze Mounted Globe Valve. Made in sizes 2" to 16", incl. Has outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc. Also available in All Iron for process lines.

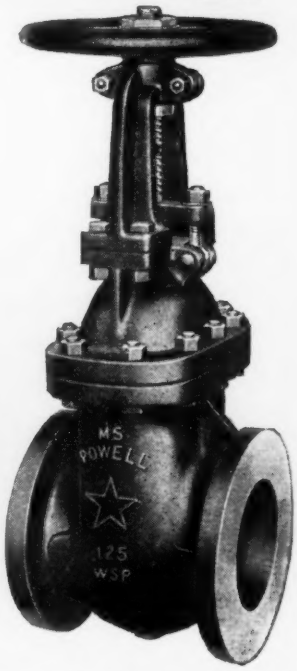



**Fig. 1793**—Large 125-pound Iron Body Bronze Mounted Gate Valve. Made in sizes 2" to 30", inclusive. Has outside screw rising stem, bolted flanged yoke and taper wedge solid disc. Also available in All Iron for process lines.

**The Wm. Powell Co., Cincinnati 22, Ohio**

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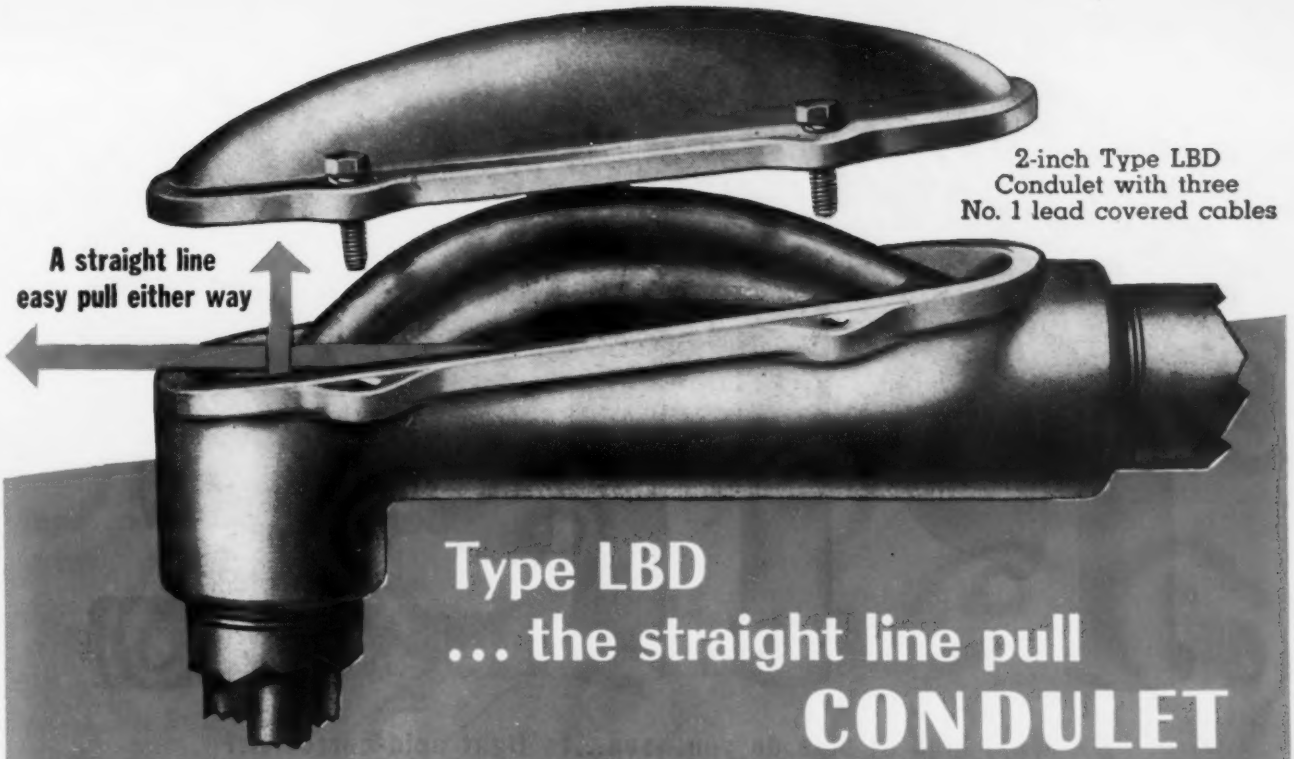
# POWELL VALVES




# Type LBD
## ... the straight line pull
# CONDULET
## for large or lead covered electrical conductors

*(CONDULETS are made only by CROUSE-HINDS)*

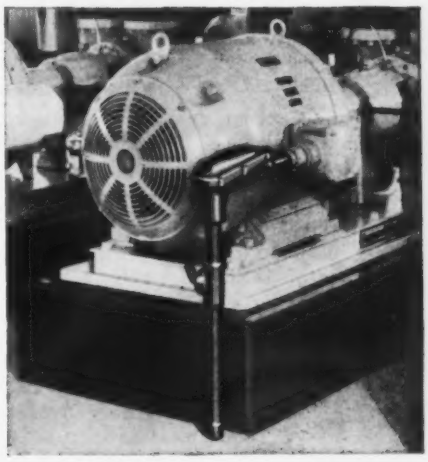
**A straight line pull through EITHER hub.** Saves time.

**Unobstructed pulling space.** Easy to manipulate conductors.

**Domed cover.** Provides extra space to prevent sharp bends that are likely to injure the conductor insulation or sheath.

**All sizes.** For electrical conduit from ½-inch up to 6-inch.

**An Explosion-Proof type is available.** Type LBH in sizes from ½-inch up to 3-inch.



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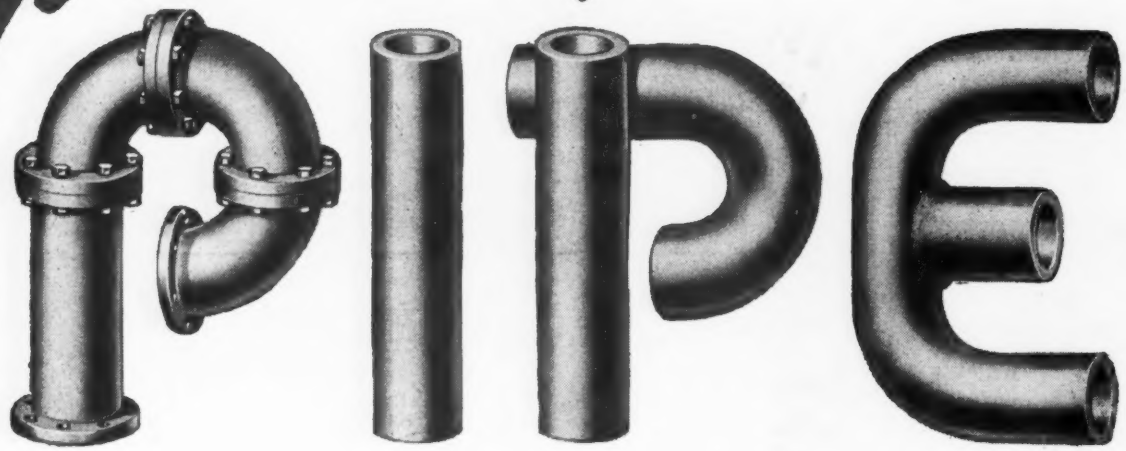
# Go "National" for Lead PIPE



## What kind of pipe do you need...to fight acid-corrosion?

**1 All-Lead Pipe?** National Lead's Chemical Lead Pipe has a long record of successful applications. And there are definite reasons for this. First, it is made of practically pure lead, which is free from bismuth and contains a small amount of copper to increase corrosion resistance. Second, it is fabricated by an extrusion process which assures uniform wall thickness, free flow and freedom from porous or defective spots.

***Whatever your problem,*** *National Lead has the lead pipe you need and a full line of fittings to go with it. Here's a lead discharge pipe used on a concrete settling tank.*

That's our *regular* lead pipe. It has become "standard" throughout industry. But, maybe you need *extra* corrosion resistance at high temperatures . . . *greater* tensile strength and toughness . . . *higher* endurance to vibratory stress. Our Tellurium Lead Pipe fills the bill there.

Or, maybe your *extra* problem is erosion. Then, you should consider our Antimonial Lead Pipe, made with a base of either Chemical or Tellurium Lead. By adding 6% of antimony we almost double the tensile strength and greatly increase hardness and stiffness.

**2 Cold Expanded Lead-Lined Pipe?** When you need pipe with the strength of iron or steel, we give it to you . . . *with a lead lining.* Our "United" Lead-lined Cast Iron or Steel Pipe has proved highly serviceable under severe conditions. It has the outer strength you need to stand pressure or other mechanical stress; the inner stamina to resist corrosion.

The lead lining is formed in continuous lengths of seamless pipe, then cold expanded against the inside of the iron or steel tube. You get a tight fit and a smooth, uniform lining, free of defects. Of course, all iron and steel pipe used meets ASTM standards.

***The strength of steel*** *plus the endurance of lead. You get both with "United" Lead-lined Pipe.*

**3 "United Tubond" Lead-Lined Pipe?** For extremes of temperature, pressure, vacuum or vibration, investigate our "United Tubond" Lead-lined Pipe. This is steel or wrought iron pipe with its lead lining permanently bonded to the ferrous metal. No separation or creep is possible. The illustration below proves the toughness of this bond.

All our lead-lined pipe is available in flanged sections with the lead lining carried over the face of the recessed flange. This insures a positive lead-to-lead joint at each flange, eliminating any danger of leakage.

***Permanently bonded!*** *Even violent twisting of this section of "Tubond" lead-lined steel pipe couldn't break the bond.*

**No Matter What Your Acid-Handling Problem . . .**

## Go "National" for Lead

*National Lead is ready to consult with you and supply any type of lead pipe . . . valves . . . sheet . . . lead-lined or lead-covered equipment . . . even complete acid recovery plants. And behind every National Lead product . . . every National Lead recommendation . . . are years of experience and many important installations in every field handling corrosive liquids and gases.*

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Westinghouse Fluorescent Lamps offer HIGH LIGHT OUTPUT to provide real SEE-ABILITY. Their low surface brightness minimizes direct glare. They provide excellent distribution of light, are cool burning, and duplicate most closely the color of OUTDOOR DAYLIGHT. To step-up production in your mill, plant or office, to reduce waste or spoilage, to help improve quality or product, to promote safety—it's to your advantage to provide good lighting—the kind synonymous with Westinghouse. Yes—for fluorescent lighting at its best, specify Westinghouse—the name you know in lamps!

Lamp Division, Westinghouse Electric Corp., Bloomfield, N. J.

Westinghouse lamps
FOR SEE-ABILITY

# Engineered for long-term service

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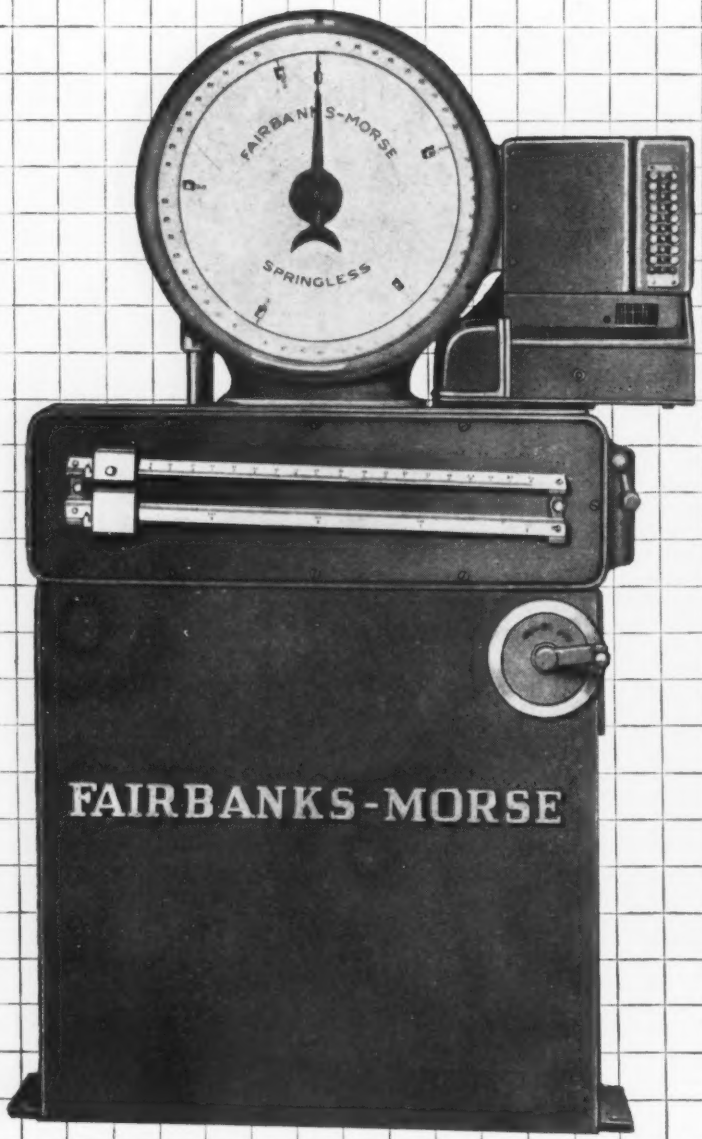
## Scales by FAIRBANKS-MORSE




Combine skilled workmanship, materials chosen by rigid quality standards, and 117 years of scale-building experience, and you have the reasons for the year-in, year-out precision of every Fairbanks-Morse Scale.

Users in every industrial field know of the endurance of these trusted weighing instruments . . . how they serve dependably even under severe conditions and sustained heavy-duty use.

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*A name worth remembering*

Diesel Locomotives
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Magnetos • Stokers
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and Standpipes
Farm Equipment

# know your NEEDLES for WOMEN'S KNITTED ACCESSORIES

EACH ONE of the more than 10,000 different styles and sizes of Torrington Needles is specially designed to perform a specific knitting function. The needles shown in the panel below, for example, are a few of the needles particularly developed for, and widely used in, the knitting of women's costume accessories.

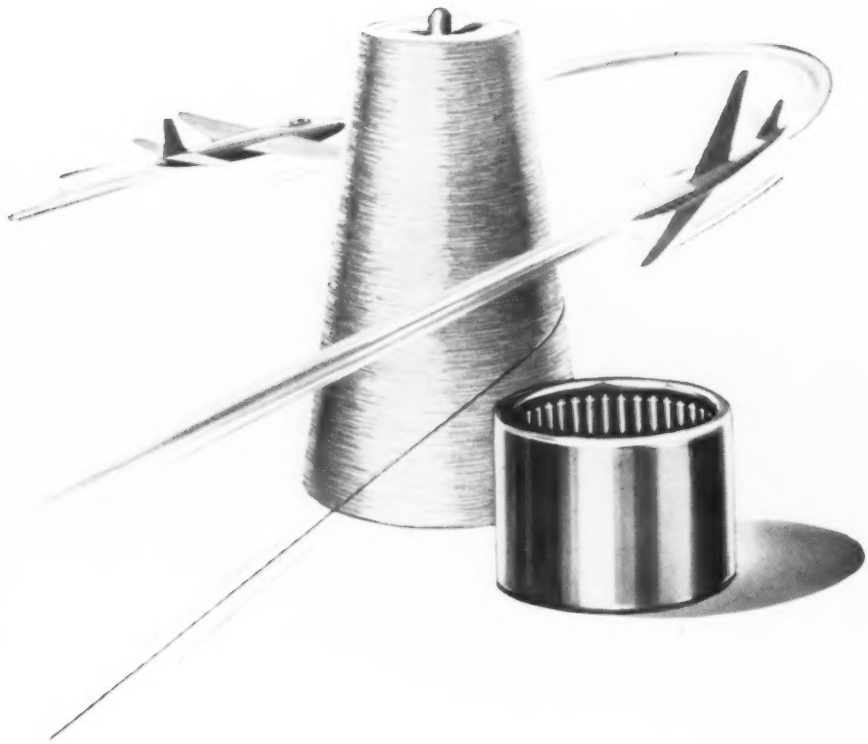
Whenever you need needles, for any knitting need . . . you need TORRINGTONS! For Torrington Needles are machine-controlled from start to finish to improve knitting quality and cut knitting costs. It always pays to specify TORRINGTON.

**THE TORRINGTON COMPANY**

**Torrington, Conn., U. S. A. • Established 1866**

*Branches:* New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Avenue, Los Angeles 37, Calif.

There's a **TORRINGTON** **LATCH NEEDLE** for every type of Knitting!



## For high speed applications . . .

efficient anti-friction operation of critical rotating parts is all-important. For low-wear, long-life performance under exacting conditions,

## You can depend upon Needle Bearings .

Typical applications for Torrington Needle Bearings include drill presses at 5,000 rpm, spinning spindles at 10,000 rpm, and aircraft propellers at 20,000 rpm. The usual provisions for precision assembly and proper lubrication will insure long service life with minimum maintenance under virtually any speed requirement.

Our engineers will gladly help you work out practical problems related to design, installation, lubrication and operation of Needle Bearings to meet your needs for high-speed anti-friction performance.

**THE TORRINGTON COMPANY**

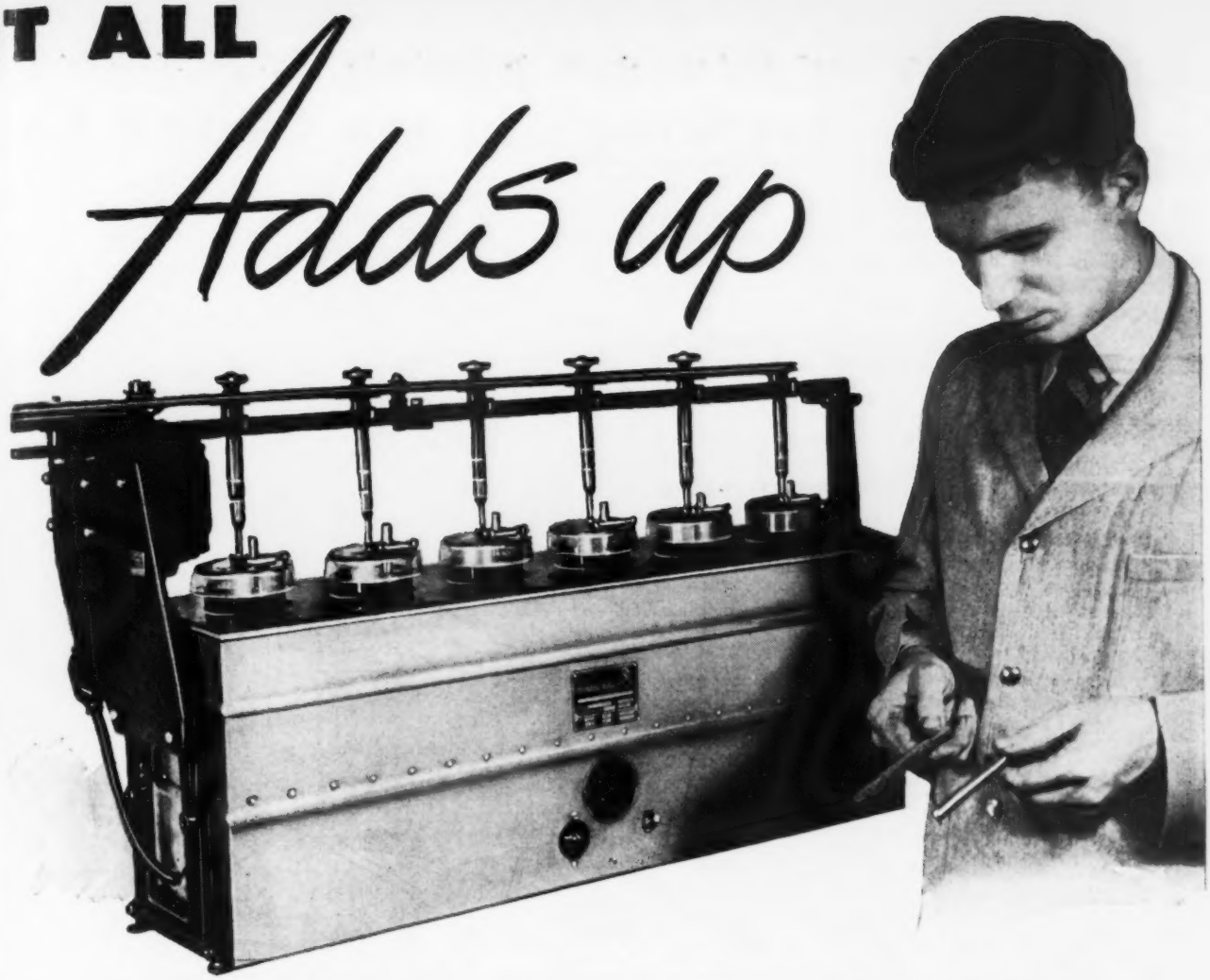
TORRINGTON, CONN. SOUTH BEND 21, INDIANA

*Offices in All Principal Cities*

# TORRINGTON BEARINGS

• NEEDLE • SPHERICAL ROLLER • STRAIGHT ROLLER • TAPERED ROLLER • BALL •

# IT ALL *Adds up*



Where special qualities are essential for safe, enduring industrial lubrication, Sinclair Research develops additives that will "further improve the best".

Pictured above is one apparatus used by Sinclair Research to determine the rust-inhibiting efficiency of oils manufactured for turbine use. Chemical additives are studied to provide such protection against rust. Obviously, the treated oil sample used on the metal rod in the technician's left hand has high rust-inhibiting efficiency and prevented the deposit shown on the other rod.

All Sinclair Research and Refinery Control is similarly thorough. *It all adds up* . . . to assure you of lubricant qualities essential to efficient and economical industrial maintenance in all applications.

*Sinclair Textile Lubricants*
FOR MINIMUM FRICTION—
MINIMUM POWER CONSUMPTION

**LILY WHITE OILS**
For Spindles

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For Coulier Motion
Rocker Arms, Gear and Camshaft Bearings,
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Valves, fittings, or pipe line accessories . . . pipe or shop-fabricated piping units . . . whatever you need for new installations or replacements . . . most likely Crane supplies it. And with good, dependable quality in every single item.

**On this water treating installation,** for example, here's how the complete Crane line helps simplify the whole piping job. You specify from one catalog . . . get everything on one order to your local Crane Branch or Wholesaler. From start to finish, the job moves fast and smooth . . . with good piping performance assured. Because when you standardize on Crane materials, you get this 3-way advantage:

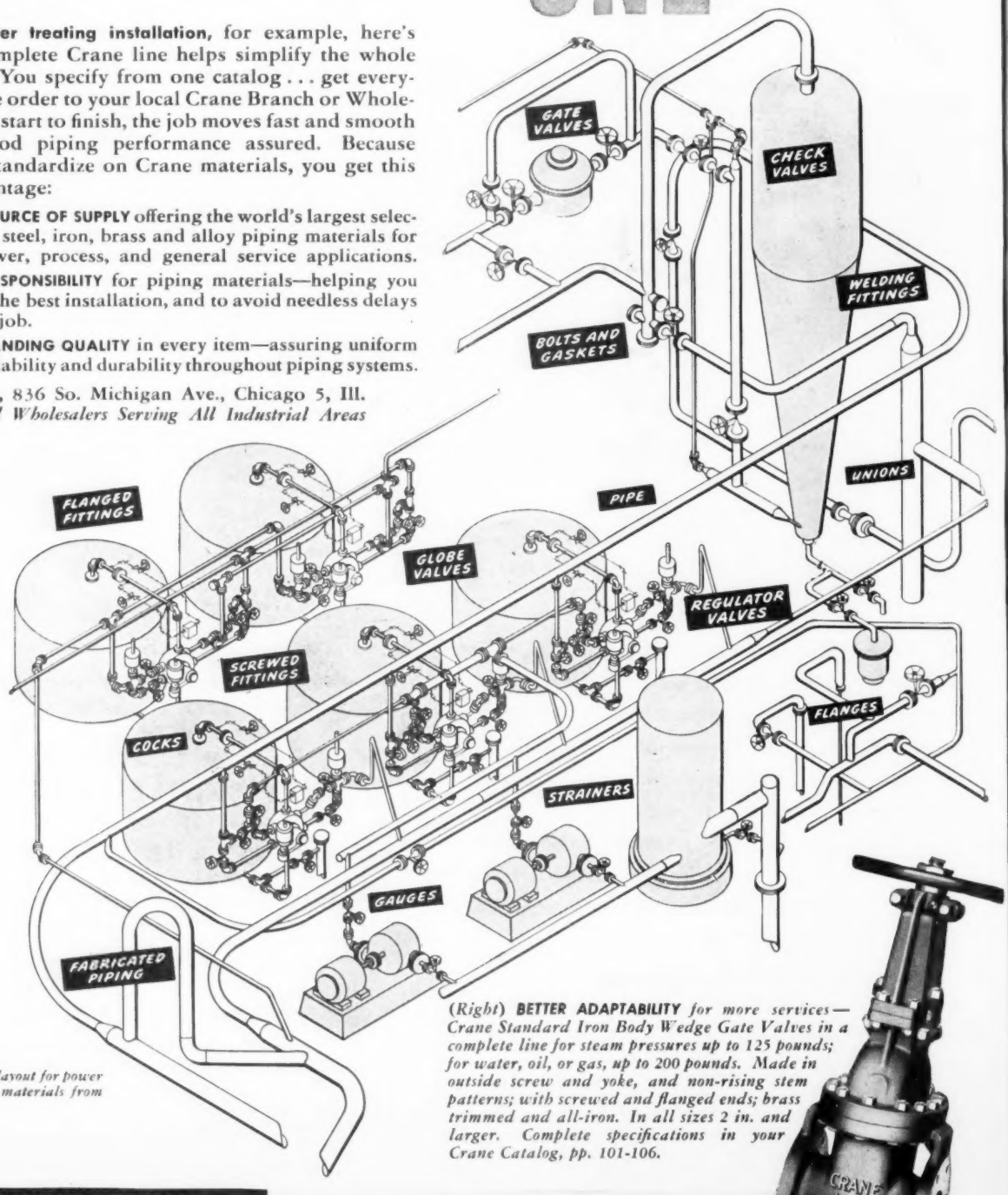
**ONE SOURCE OF SUPPLY** offering the world's largest selection of steel, iron, brass and alloy piping materials for all power, process, and general service applications.

**ONE RESPONSIBILITY** for piping materials—helping you to get the best installation, and to avoid needless delays on the job.

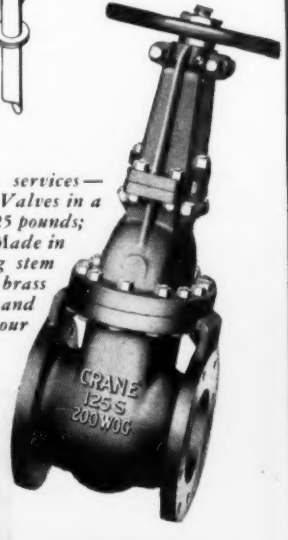
**OUTSTANDING QUALITY** in every item—assuring uniform dependability and durability throughout piping systems.

CRANE CO., 836 So. Michigan Ave., Chicago 5, Ill.
*Branches and Wholesalers Serving All Industrial Areas*

ONE
SOURCE OF SUPPLY
RESPONSIBILITY
STANDARD OF QUALITY




*Water treating layout for power plant . . . piping materials from Crane.*




(*Right*) **BETTER ADAPTABILITY** *for more services—Crane Standard Iron Body Wedge Gate Valves in a complete line for steam pressures up to 125 pounds; for water, oil, or gas, up to 200 pounds. Made in outside screw and yoke, and non-rising stem patterns; with screwed and flanged ends; brass trimmed and all-iron. In all sizes 2 in. and larger. Complete specifications in your Crane Catalog, pp. 101-106.*

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**VALVES • FITTINGS**
**PIPE • PLUMBING**
**AND HEATING**

# CRANE

**FOR EVERY PIPING SYSTEM**

# Marquette
# ROLLER BEARING WORSTED SPINDLES

*with* **FULL-FLOATING FOOTSTEP BEARING AND 3-BUTTON SPRING CLUTCH**

**Efficient high speed operation ...improved quality of yarn... less power and maintenance**

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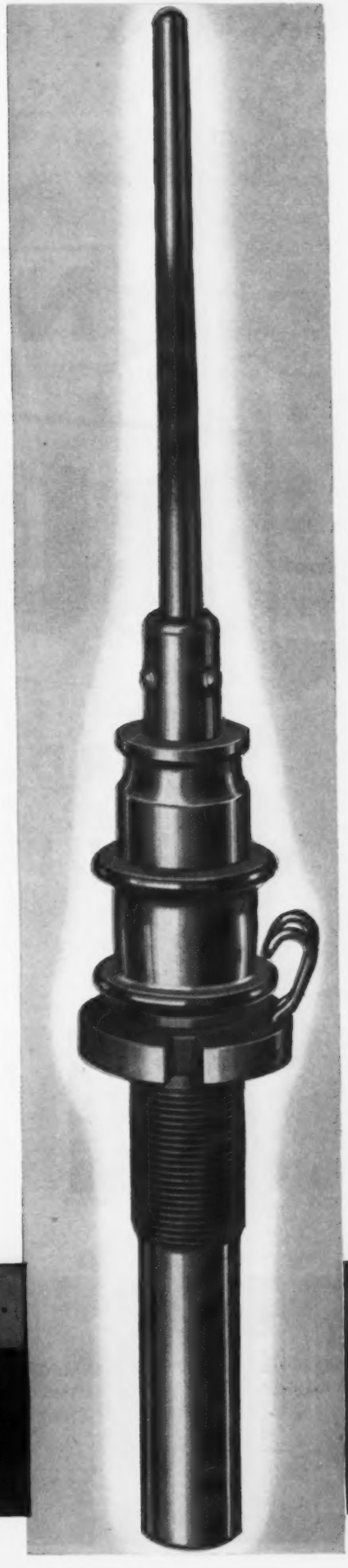

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CLEVELAND 10, OHIO

SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

*Manufacturers of* HYDRAULIC AND ELECTRIC WINDSHIELD WIPERS · FUEL OIL PUMPS HYDRAULIC GOVERNORS FOR DIESEL ENGINES · ROLLER BEARING TEXTILE SPINDLES AIR COMPRESSORS · PRECISION PARTS AND ASSEMBLIES

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# BUT 275

## YARDS PER MINUTE

## FULLY BLEACHED

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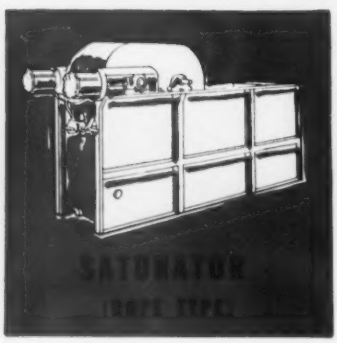


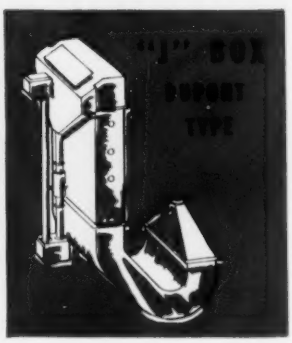

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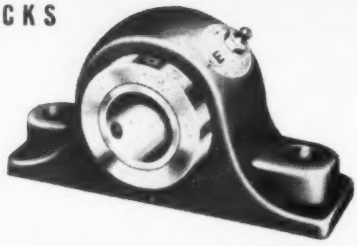

Superior performance at moderate cost. High speed capacity. Sizes 1-3/16" to 4".

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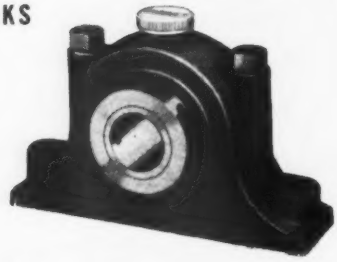
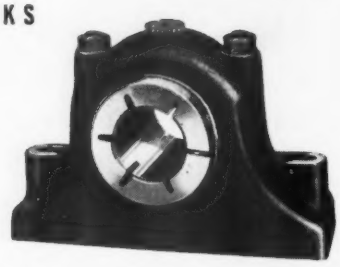


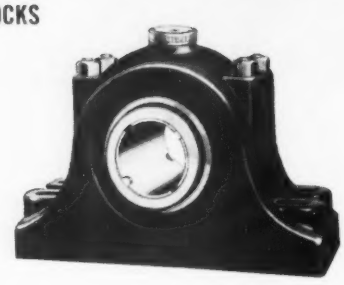
For general service. Normal radial, thrust and shock loads. 1-7/16" to 4-15/16".

DODGE-TIMKEN TYPE "C" PILLOW BLOCKS



Triple sealed against fine abrasive dust. Shaft sizes are 1-3/16" to 4-15/16".

DODGE-TIMKEN SPECIAL DUTY BALL AND SOCKET PILLOW BLOCKS



Rugged, heavy duty, high speeds. Made in shaft sizes from 1-7/16" to 8".

*For Unquestioned Quality—*

# DODGE-TIMKEN

On anti-friction bearings, these two names are assurance of dependability and performance which enable you to cut costs and increase production. Dodge mounts, seals and houses the precision bearing assemblies and delivers them fully assembled, adjusted and lubricated—ready to lock on the shaft. Parts required for mounting these bearings are manufactured complete in the Dodge factory—from foundry through many precision operations on the latest machine tool equipment. The bearings pictured are from the famous Dodge 30,000 hour line, covering a broad range of industrial bearing requirements, promptly available from distributors' stocks.

**DODGE MANUFACTURING CORPORATION • MISHAWAKA, INDIANA**

***CALL THE TRANSMISSIONEER***

your local Dodge distributor, for news of latest developments in power transmission equipment. Look for his name in your classified telephone book under "Power Transmission Equipment."

**DODGE**

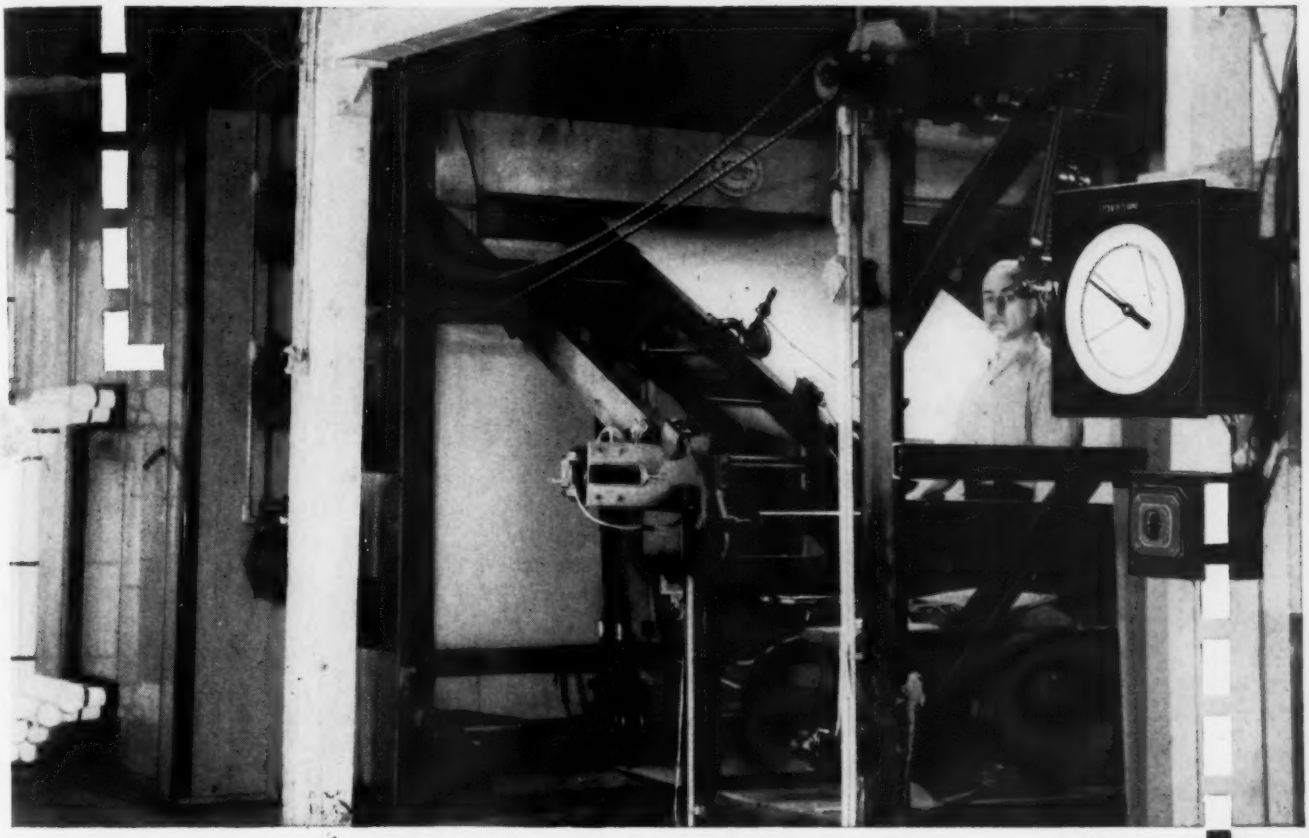
*of Mishawaka, Ind.*

Copyright, 1947, Dodge Mfg. Corp.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

# *Inside Facts*
## . . . increase dryer efficiency



## *ElectroniK* control boosts production

Precision temperature control of dryers with the ElectroniK Instrument has proven even more advantageous than expected.

The ElectroniK Controller has made possible the elimination of baking and color change due to dryer operation. More important, it has improved finishing operations—provided for far better shearing

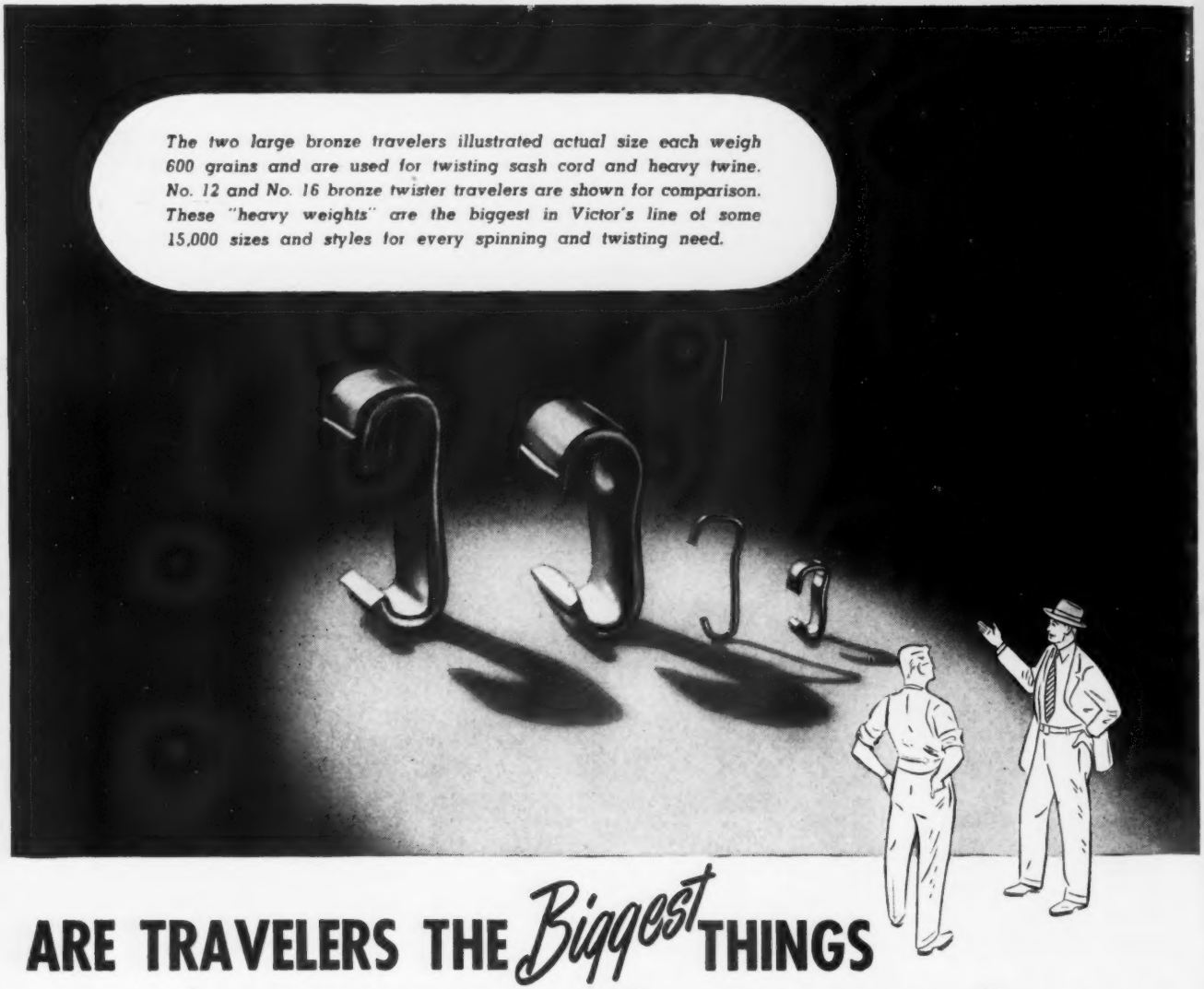
The installation, shown above, at the Wyandotte Mills, Waterville, Maine, provides continuous dryer control with a switch for checking the all important temperature gradient throughout the dryer. These "inside facts" enable the operator to keep the dryer at top efficiency. Conditions caused by a slipping fan belt or improperly adjusted dampers are quickly detected. A convenient knob provides for easy changes in temperature control for goods of varying weight.

Add up the economies of higher production, better finishing and less rejectable goods. These economies can be realized in your mill at low cost with Brown ElectroniK Dryer Control.

*Write for complete information*

**THE BROWN INSTRUMENT COMPANY**
**4509 WAYNE AVE., PHILADELPHIA 44, PA.**
**DIVISION OF**
**MINNEAPOLIS-HONEYWELL REGULATOR CO.**
SUBSIDIARY COMPANIES IN TORONTO • MEXICO CITY • LONDON
STOCKHOLM • AMSTERDAM • BRUSSELS

**BROWN *ElectroniK* POTENTIOMETERS**


The two large bronze travelers illustrated actual size each weigh 600 grains and are used for twisting sash cord and heavy twine. No. 12 and No. 16 bronze twister travelers are shown for comparison. These "heavy weights" are the biggest in Victor's line of some 15,000 sizes and styles for every spinning and twisting need.

# ARE TRAVELERS THE *Biggest* THINGS *in your yarn production setup?*

ACTUALLY, they are about the smallest piece of equipment you use in fiber processing. But they *can* be one of the biggest, in point of time and production lost, if you choose the wrong traveler. A little traveler can become your biggest headache.

With the new interest in worsted yarns prepared on the cotton system, and with so many new synthetics and blends coming up for processing, it is more difficult today than ever to be sure the traveler you use is right for the job. Experience with conventional fibers helps. But, to save precious time in setting up smooth-running spinning and twisting, you need up-to-the-minute information.

You can get that kind of information from a man whose job it is to keep abreast of every new development. The Victor Service Engineer is fully prepared to help you keep out of traveler trouble, and, more than that, help you raise production and quality, often well above what you expected.

Make sure you are getting the most and the best from your frames, whether you are running blends, straight synthetics, or conventional fibers. Write, wire or phone, and a Victor Service Engineer will call promptly.

★

*Keep a Step ahead with*

**VICTOR Ring Travelers**

**VICTOR RING TRAVELER COMPANY**

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 0737

GASTONIA, N. C. . . . . 358-364 West Main Ave. . . . . Tel. 247

# Down-to-Earth Planning with

# CALCOGENE* SULFUR DYES

- CALCOGENE BRILLIANT GREEN 5BCF CONC.
- CALCOGENE BRILLIANT GREEN 8G EX. CONC.
- CALCOGENE ELECTRIC BLUE CF CONC.

WHEN YOUR PLANS call for dyes of superior wash-fastness at low cost, consider these CALCOGENE sulfur colors. Highly recommended for stock dyeing on cotton and rayon blends to produce the blue-green element in Scotch plaids, they also give satisfactory results on coverts, ticking, ginghams, and cotton and rayon fabrics for children's play clothes.

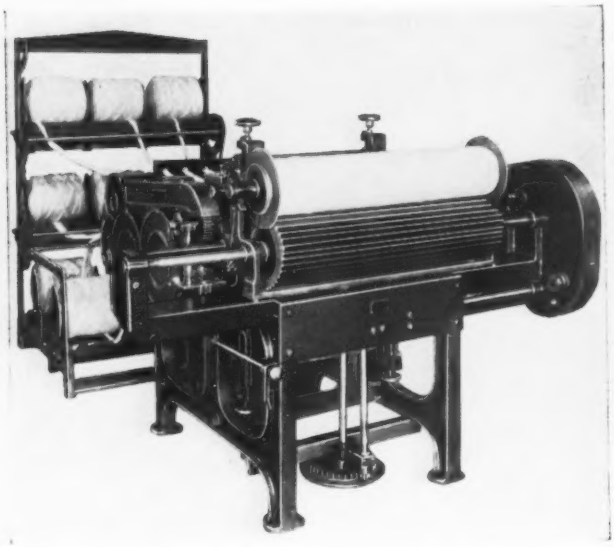
Ask your Calco representative for full information about these and other dyes for all types of fabrics. CALCO CHEMICAL DIVISION, AMERICAN CYANAMID COMPANY, Bound Brook, New Jersey. New York, Chicago, Philadelphia, Boston, Charlotte, Providence.

*Trade-mark

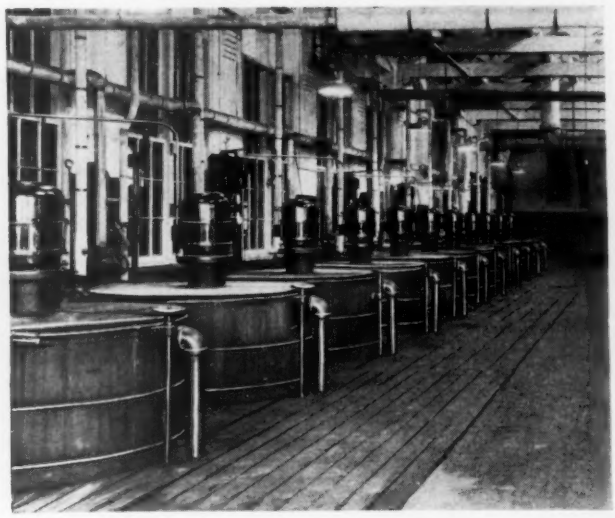
*Reprints of this advertisement suitable for framing and without text will be sent on request.*

# ABBOTT
# WORSTED TOP DYEING

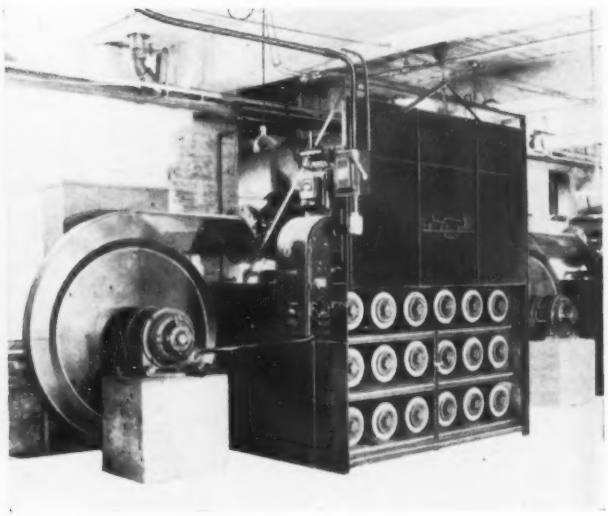
MOST OF THE WORSTED TOP IN THE UNITED STATES
IS DYED ON THE ABBOTT DYEING SYSTEM



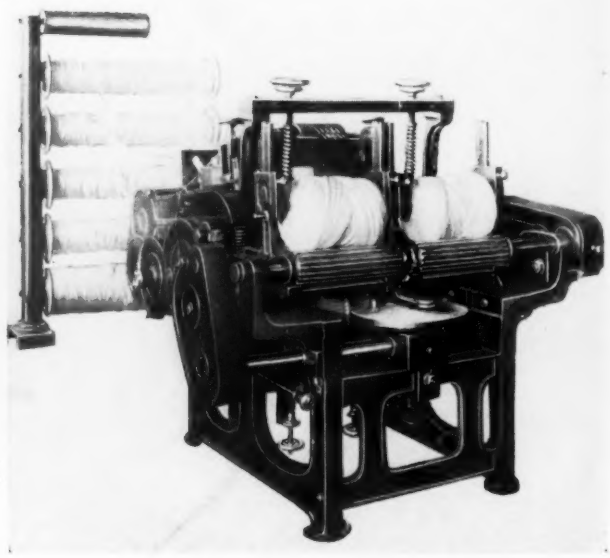
(1) Abbott Dye Spools Wound from Top on Special Spooling Gill



(2) Then, Dyed in Abbott Stainless Steel Dye Kettles



(3) and Dried in Abbott 18-spool Dryer



(4) Then, wound from Dye Spools on the Finishing Gill

*No Backwashing or Recombing Required*

## ABBOTT MACHINE COMPANY
## WILTON, NEW HAMPSHIRE
## U.S.A.

# FOR PAILS, BUCKETS, TUBS AND TANKS...

## *nothing equals Stainless Steel*

EVEN in these simple but important dye house appliances, Stainless Steel has proved its outstanding superiority for improving production and lowering costs.

- It keeps colors truer and brighter.
- It makes faster change-overs possible.
- It prevents bleeding and contamination.
- It drastically reduces cleaning time and labor.
- It holds replacement costs to the very minimum.

In one plant, for example, acid-handling buckets were formerly used up at the rate of 4 to 8 dozen per month. Now, made of Stainless Steel, they last so much longer that replacement costs have been cut 75%.

In dye jigs, acid agers, mixing tanks, etc. the advantages of using Stainless Steel are equally apparent and profitable. A marked increase in over-all plant efficiency has been common experience.

Why not plan now for the gradual replacement of your worn-out and obsolete equipment—with Stainless Steel construction? And if you want to insure the *biggest* return on your investment make it a point to see that it is made of U·S·S Stainless Steel.

This *perfected*, service-tested Stainless is so uniform in composition, in finish and fabricating qualities that it permits the widest latitude in design and allows the use of the most advanced manufacturing techniques. The result—equipment that will deliver the utmost in performance.

# U·S·S STAINLESS STEEL

**AMERICAN STEEL & WIRE COMPANY**, *Cleveland, Chicago and New York*
**CARNEGIE-ILLINOIS STEEL CORPORATION**, *Pittsburgh and Chicago*
**COLUMBIA STEEL COMPANY**, *San Francisco*
**NATIONAL TUBE COMPANY**, *Pittsburgh*
**TENNESSEE COAL, IRON & RAILROAD COMPANY**, *Birmingham*
**UNITED STATES STEEL SUPPLY COMPANY**, *Chicago, Warehouse Distributors*
United States Steel Export Company, New York
7-576

**LISTEN TO . . . *The Theatre Guild on the Air*,** presented every Sunday evening by United States Steel. American Broadcasting Company, coast-to-coast network. Consult your newspaper for time and station.

USS STAINLESS STEEL UNITED STATES STEEL

# UNITED STATES STEEL

One Glance Tells You that

# Only the SIDE of a V-Belt TOUCHES the Pulley

Diagram of V-Belt in Sheave Groove

## The *SIDE* Does ALL the GRIPPING That's Why it *GETS the WEAR!*

One glance at a V-Belt in its sheave shows you that only the sides of the belt *touch the pulley.* Every ounce of load the V-Belt carries must first be picked up by the sides. The sides do all the *gripping*—they get all the *wear* against the sheave groove wall. They pick up the load. They transmit that load to the belt as a whole. Then, once again, the sides—and the sides *alone*—grip the driven pulley and deliver the power to it.

Naturally, this explains why you have always noticed that the sidewall of the *ordinary* V-Belt is the part that *wears out first.*

## ★ *Now See How the Patented CONCAVE SIDE SAVES Sidewall Wear—Lengthens Belt Life!*

Because the life of a V-Belt depends, first of all, on the sidewall, it is clear that anything which prolongs the life of the sidewall will lengthen the life of the belt. The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the *middle* of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belts can possibly give.

### ★ Longer Sidewall Wear Is MORE IMPORTANT NOW Than Ever Before!

Now that Gates *SPECIALIZED* Research has resulted in Super V-Belts capable of carrying much heavier loads—up to 40% *higher horsepower ratings* in some cases—the sidewall of the belt is called upon to do even *more work* in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important NOW than ever before!

4710



### The CONCAVE SIDE is a GATES PATENT

Straight Sided V-Belt

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

**You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.**

Gates V-Belt with Patented Concave Sidewall

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley.

**No bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!**

THE GATES RUBBER COMPANY DENVER, U. S. A., *"World's Largest Makers of V-Belts"*

# GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

Gates

THE MARK OF SPECIALIZED RESEARCH

Bunting Standard Stock Bearings are available from the shelves of your nearest Bunting Distributor. The many hundred sizes offer a variety of choice, some of which should meet your need. If not, slight alteration will give you exactly what is required. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in Principal Cities.

73

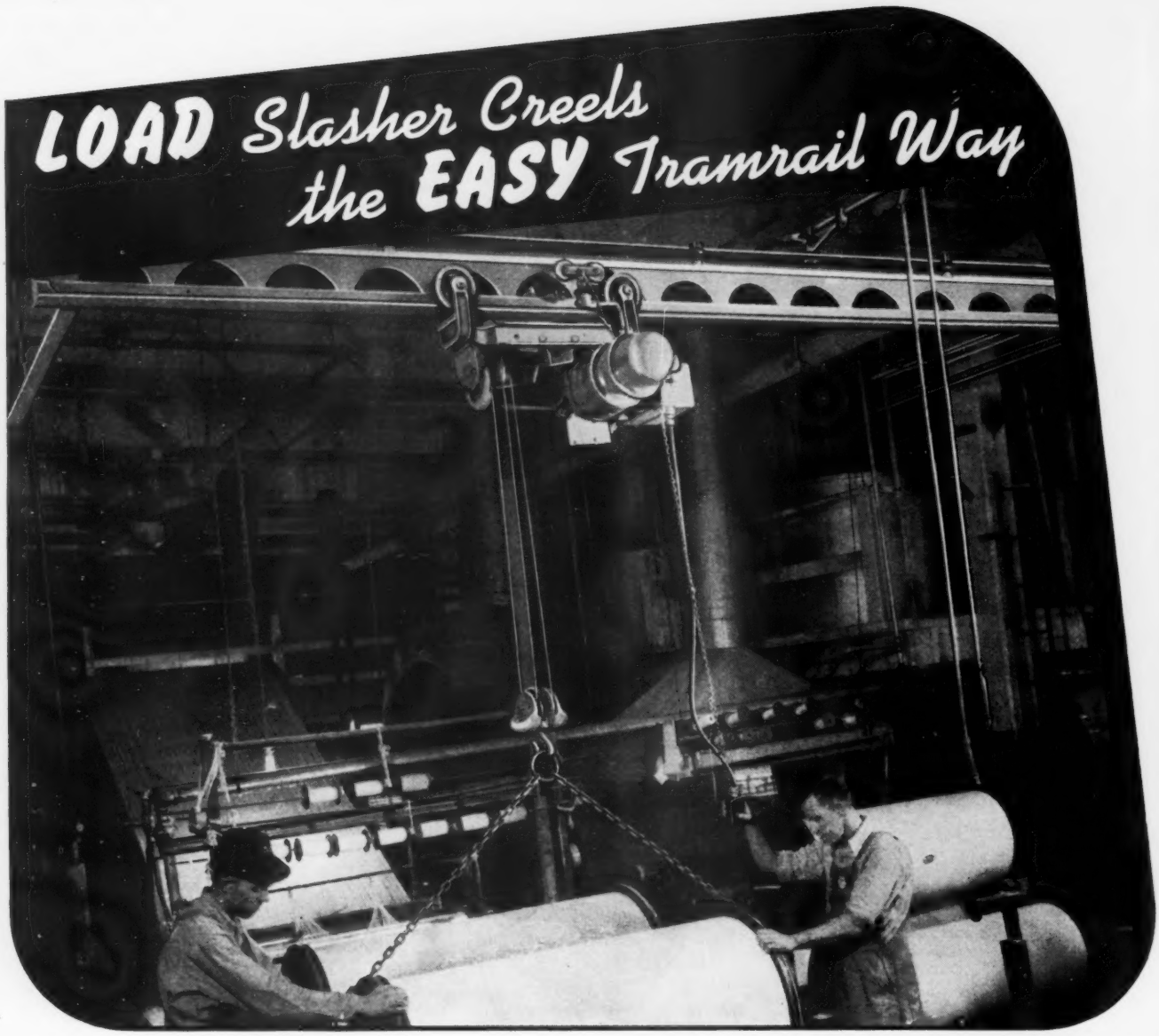
PRECISION BRONZE BARS

BRONZE BEARINGS

BUSHINGS

# Bunting

# LOAD Slasher Creels the EASY Tramrail Way



It is so simple and fast to load beams into slasher creels with Cleveland Tramrail, it is no wonder that so many mills — large and small — are rapidly swinging over to this modern way of handling.

In jiffy time a heavy beam can be set into a creel with minimum loss of production from slasher shut-down. The same hoist that inches the beam carefully into position usually selects the beam out of storage. Thus delivery is direct and all time-consuming rehandling is eliminated.

**Most likely, there are installations of Cleveland Tramrail near you, that you can visit and study. However, the most effective way of demonstrating its possibilities is to select a good test job in your own plant and put in an installation of Cleveland Tramrail. Then carefully study the equipment and make accurate record of the results. In this manner, you can determine first hand whether or not you can profit by its use.**

*GET THIS BOOK!*

BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

**CLEVELAND TRAMRAIL DIVISION**
THE CLEVELAND CRANE & ENGINEERING CO.
8456 EAST 287TH ST. WICKLIFFE, OHIO

**CLEVELAND TRAMRAIL**
**OVERHEAD MATERIALS HANDLING EQUIPMENT**

## ...with Tycol spindle oil"

TYCOL
INDUSTRIAL LUBRICANTS

Pittsburgh • Philadelphia
Boston • Charlotte, N. C.

TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE • NEW YORK 4, N. Y.

***"Not a single tube lost . . .***
***Reduces spindle drag . . .***
***Reduces bolster losses . . .***
***Steps up production . . .***
***Cuts down on maintenance costs . . ."***

— says a textile mill operator. "With Tycol Spindle Oil," he goes on, "we're able to operate continuously at top speed—and we don't have to worry about the oil losing its body at operating temperatures."

For further information about Tycol Textile Oils, get in touch with your nearest Tide Water Associated office.

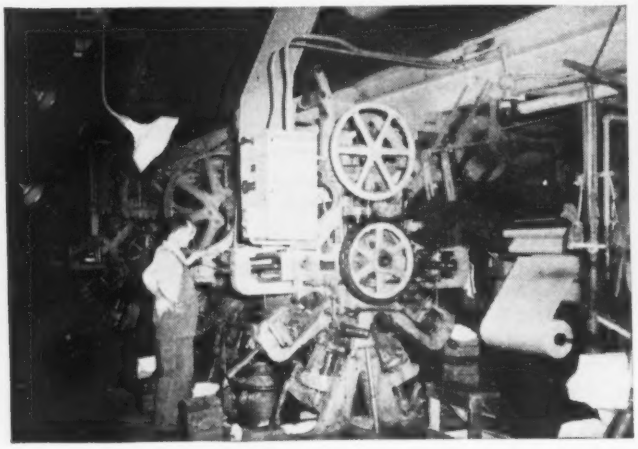
**LUBRICATION—"ENGINEERED TO FIT THE JOB"**

# do you know Roller Chain...

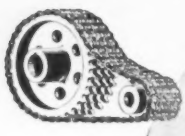
## ELIMINATES MORE THAN SLIPPAGE!

① **POSITIVE BALDWIN-REX ROLLER CHAIN DRIVES** not only stop power-wasting slippage, they also eliminate damage to your machines by their inherent elasticity that absorbs shocks and overloads. And, their exceptionally long service life eliminates frequent "time-outs" for repairs and adjustments.

② **I'M NOT JUST TALKING** on that long-life angle. In our product development laboratories, we actually prove the wear-resistant qualities of Baldwin-Rex. This machine, for example, runs the chain over small sprockets at excessively high speeds under conditions considerably more severe than actually encountered to determine life expectancy. In this manner, we get data on materials, heat-treatment, parts design, etc., that mean added service for you.



③ **THIS PRINT WORKS** found the exceptionally long life built into every link of Baldwin-Rex Roller Chain a big help in keeping the printing machines going without interruption. These chains have been in service for more than 20 years with average machine production about 100,000 yards per week . . . a real service record.



*You can simplify replacement and chain selection, generally cut costs and improve deliveries by buying standard roller chains. Your Baldwin-Rex Man will be glad to give you all the facts on standard chains and help you with your application problems. Call him or write us direct.*

**BALDWIN·REX**

***ROLLER CHAINS***

**BALDWIN-DUCKWORTH DIVISION OF CHAIN BELT COMPANY**

**346 Plainfield Street, Springfield 2, Mass.**

A MOBILIFT will handle a greater volume of packaged goods per day than any other lift truck, regardless of size. Extensive studies and countless field tests have proven this fact. The reason is simple. Because of its compact size, its shorter turning radius and the fact that it requires no gear shifting —MOBILIFT is the most maneuverable lift truck in the field. It makes more trips per day; loads from car and truck floors; eliminates rehandling and wasted effort.

Prove to yourself that these facts are true —write today for our new folder *"Mobilift's Formula for Faster Handling"*.

- ✓ Lighter Weight
- ✓ Smaller Size
- ✓ Shorter Turning Radius
- ✓ No Gear Shifting
- ✓ Greater Maneuverability

*Here's Proof*

**OF THESE FACTS**

Send for your copy today!

**MOBILIFT CORPORATION**
835 S.E. Main St. PORTLAND 14, ORE.

Please send me a copy of "Mobilift's Formula for Faster Handling".

Name_____

Company_____

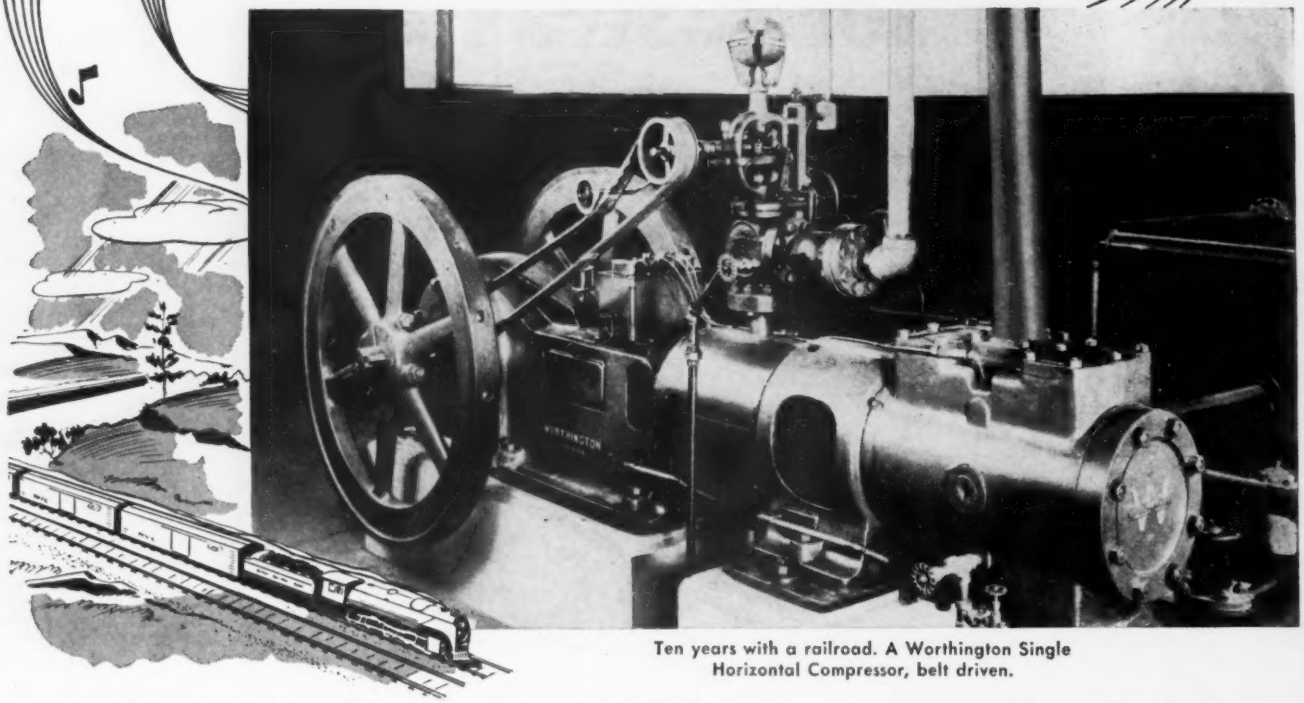
Street_____

City_____ State_____

# MOBILIFT
## MOVES MATERIALS LIKE A GIANT!
**MOBILIFT CORPORATION, 835 S.E. MAIN STREET, PORTLAND 14, OREGON**

# "I've been workin' on the railroad all the livelong day....."

# FOR 10 YEARS!



Ten years with a railroad. A Worthington Single Horizontal Compressor, belt driven.

The old song might well have been written about this Worthington Single Horizontal Compressor, a veteran in railroad service. Not an "old timer", though — because at ten years of age a Worthington Compressor is *young*. Everywhere in industry you'll find Worthington single horizontals with far longer service records, going as strong as the day they were installed. That's because they're built with one idea uppermost — continuous heavy duty. Year after year, they breeze along like an athlete in top form.

### *Get the Whole Story*

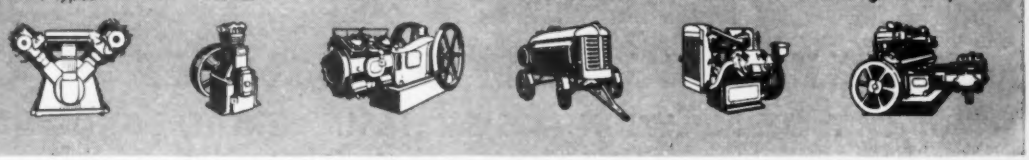
If your compressed-air requirements are between 55 to 1987 cfm, one of the 29 sizes of Worthington Single Horizontal Compressors will meet them with the lasting dependability and economy that means complete compressor-satisfaction. Made in a variety of steam or motor driven models — all with the famous Worthington Feather* Valve — the line is fully described in Bulletin L-640-B1A. Write for it. See why in compressors, as in so much other equipment, *there's more worth in Worthington. Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, New York.*

# WORTHINGTON

*Reg. U. S. Pat. Off.

K7-5

NO OTHER COMPRESSOR WILL OUTPERFORM A WORTHINGTON



# She earned a lot of money in her day

We can't tell you her name, but racing men will never forget the day she won the Hambletonian.

A rank outsider—she ran first in three straight heats. For two years she was the toast of the Grand Circuit. Her grizzled owner said: "My little girl will be the greatest money-winner of all time" . . . and never planned beyond the next race.

And then her star fell as suddenly as it had risen. One day she pulled up lame . . . and never raced in the big time again. In her last time out, she ran third at a county fair in northern Wisconsin.

Her owner comes back to Goshen for the Hambletonian year after year, but he doesn't have an entry. "Next time," he says, "I'll set aside some money where I can't touch it. Next time . . . "

Take a look at your last Financial Statement: Are you carrying the money that you charge off for Depreciation as a *fixed* or as a *current* asset? . . . Is it money in the bank or is it money that you owe to yourself?

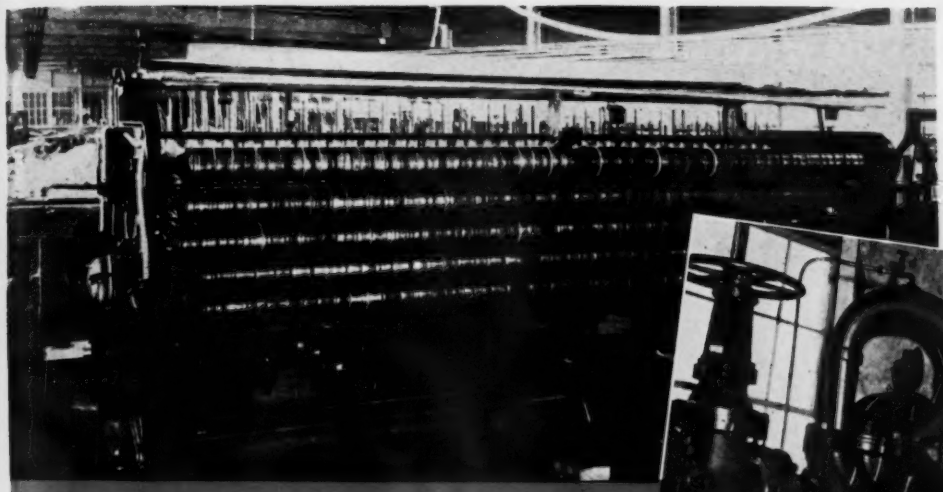
Write today on your business stationery for your copy of "Good Housekeeping in Business" —a pamphlet which presents what we believe to be a *logical* basis for handling depreciation money. We will be glad to send it to you.

**TEXTILE MACHINE WORKS**
**READING, PENNA.**

***Fashion Notes . . .*** Sheer, clear, full-fashioned stockings sound the outstanding note in the fashion melody. The harmony of a consumer's satisfaction and a producer's profit are blended by the flawless knitting of fine needles. TMW Needles are "Fixture Drawn"* . . . made by a special TMW patented process which holds the needles straight and true. Let us put your needle bars in shape for faster, more accurate, more profitable knitting.

* Reg. U. S. Pat. Off.

TEXTILE MACHINE WORKS • READING, PA.



Century Squirrel Cage 3 horse power motor driving a twiller in a dye works.

Century Squirrel Cage 100 horse power motor driving a fire pump.

# Century's

## Wide Range of Kinds, Types and Sizes of Electric Motors Meets the Demands of Many Applications in the Textile Industry

Many thousand Century motors are operating fans blowers, pumps, dye house equipment, agitators, centrifugals, washers, dryers, twillers, warpers, stokers and similar equipment in the wide range of operations in the textile industry.

*The Century line of electric motors includes:*

**Polyphase • Single Phase • Direct Current**

**Vertical • Horizontal • Gear**

**Open • Splash Proof • Dust Proof**

**Totally Enclosed Fan Cooled**

**Totally Enclosed Explosion Proof**

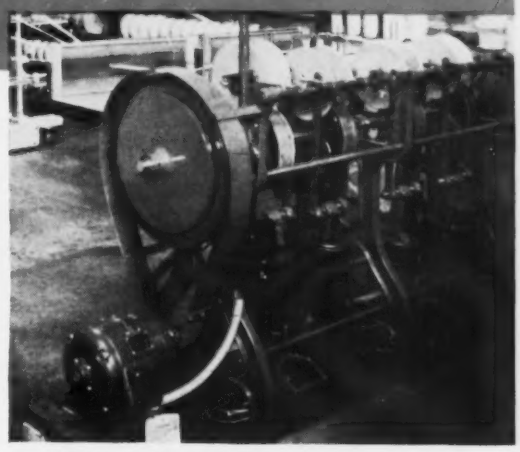
**Cushion Mounted • Rigid Mounted • Single Speed**

**Multi-Speed • Adjustable Speed • Variable Speed**

**Ball Bearing • Sleeve Bearing**

Each type and kind of Century motor is designed to operate in different surrounding conditions indoor or outdoor, from cold and dry to humid tropical climates. Century motors are available for operating processing equipment in highly humid surroundings or in the presence of mild acid or alkali fumes. Special insulation can be provided for more concentrated acid and alkali surroundings.

Specify Century for all your electric power requirements.



Century Squirrel Cage ¾ horse power motor driving a warper in a textile plant.

Century Motors

**CENTURY ELECTRIC COMPANY** • 1806 Pine Street, St. Louis 3, Mo.

*Offices and Stock Points in Principal Cities*

546

# Fitting the bearing to the Job

What may seem a toughie for you, may be simply solved by the Hyatt Engineering Staff.

These men know just how, why and where Hyatt Roller Bearings fit in almost any design—to meet your specific requirements.

Speed—load—position—every factor will be studied and you'll get the right answer.

For fifty-five years Hyatt has served automotive — industrial — agricultural and transportation folks with the finest roller bearings.

Let's work together on your next bearing problem to fit the bearings to the job not the job to bearings. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

**HYATT ROLLER BEARINGS**

# SPEEDY

## deliveries on U·S·S Stainless Steel

Now you can get all the Stainless Steel you want. This means that we have available for your needs—No. 2B finish sheets of proven excellence; No. 4 finish sheets of uniform quality; bars that meet high standards of machinability; plates in sizes up to 120" wide and 360" long; tubing—both welded and seamless; pipe, angles, channels and welding electrodes in all standard grades and specifications.

If you need help in selecting the grades of U·S·S Stainless that will best suit different kinds of service or fabricate best on your equipment, our engineers will gladly assist you. Free technical bulletins and booklets covering the varied uses for U·S·S Stainless are also yours for the asking.

Once a month we publish an up-to-date Inventory Bulletin, listing our Stainless stocks. If you use Stainless Steel and are not receiving these bulletins, write us.

So, whether you want help or want to give us an order, phone, wire or write our nearest warehouse and you'll get prompt, courteous service.

**Symbol of Service**

FOR STEEL USERS

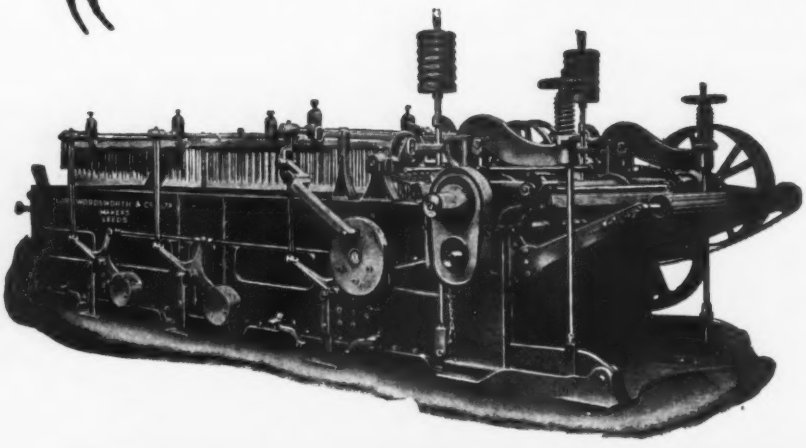
UNITED STATES STEEL SUPPLY COMPANY · USS · STEELS · SERVICE

## UNITED STATES STEEL SUPPLY COMPANY

| | | |
|---|---|---|
| CHICAGO (90) | 1319 Wabansia Ave., P. O. Box MM | BRUnswick 2000 |
| BALTIMORE (3) | Bush & Wicomico Sts., P. O. Box 2036 | GIlmor 3100 |
| BOSTON | 176 Lincoln St., (Allston 34), P. O. Box 42 | STAdium 9400 |
| CLEVELAND (14) | 1394 East 39th St. | HEnderson 5750 |
| LOS ANGELES (54) | Slauson Avenue (Between Alameda and Sante Fe) | LAfayette 0102 |
| MILWAUKEE (1) | 4027 West Scott St., P. O. Box 2045 | MItchell 7500 |
| NEWARK (1), N. J. | Foot of Bessemer St., P. O. Box 479 | Bigelow 3-5920 REctor 2-6560—BErgen 3-1614 |
| PITTSBURGH (12) | 1281 Reedsdale St., N. S. | CEdar 7780 |
| ST. LOUIS (3) | 311 S. Sarah St., P. O. Box 27 | LUcas 0440 |
| TWIN CITY | 2545 University Ave., St. Paul (4), Minn. | NEstor 7311 |

UNITED STATES STEEL

# for Perfect WOOL WASHING



## The LEVIATHAN Wool Washing MACHINE

This modern Harrow type machine handles the stock gently and with little agitation through every stage. All the controlling mechanism is below the top of the bowls and all the belts are on one side, permitting rapid inspection of the progress of the wool. Settling tanks extend the full length of the bowls, giving maximum area for dirt settling.

## Aireflow DRYING MACHINE for Wool, Cotton, Flax, Rags, and any type of similar raw material.

An entirely New Dryer of the single Apron Type with a positive and controlled air circulation. Compact in size, low in steam consumption and upkeep costs. Entirely accessible and clean in operation. No danger of colour mixing with dyed materials.

● Before or after Dyeing.

● *View at Feed end showing "built-in" auto feed and working side of dryer.*

*WILLEYS, OPENERS,*
*WOOLWASHERS,*
*DRYERS, Etc.,*

**Prince·Smith & Stells Ltd.**

INCORPORATING TAYLOR WORDSWORTH & Co. LTD

*CONCESSIONAIRES FOR ALL WORSTED MACHINERY MANUFACTURED BY PLATT BROTHERS & CO. LTD. ASA LEES & CO. LTD.*

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*Agents*, U. S. A. and Canada—English system machinery.
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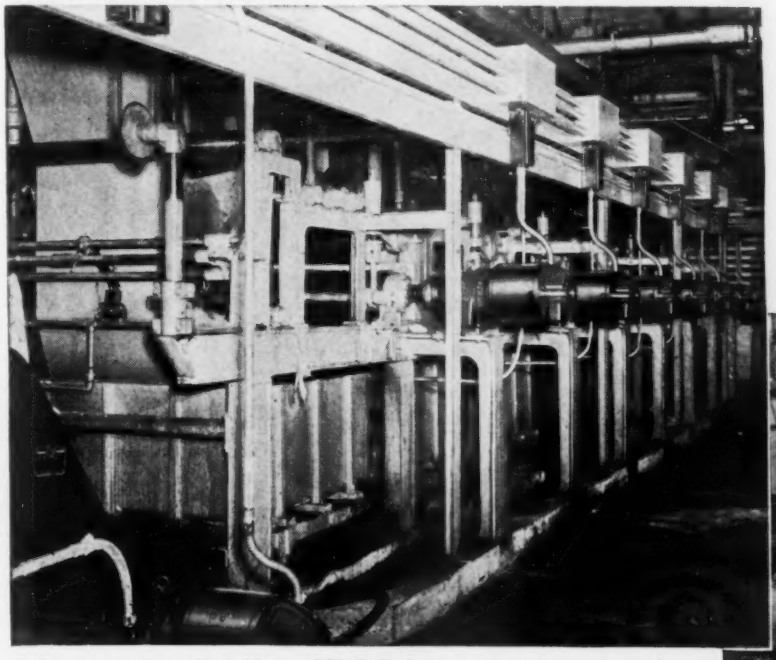
*Agents*, U. S. A.-French system machinery.
The Blake Electrical Mfg. Co., 178 Atlantic Ave., Boston 10, Mass.

# INCREASED FLEXIBILITY



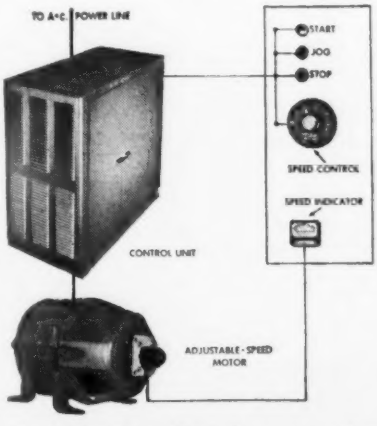
means

## FASTER PROCESSING...

*Reliance 7-motor, adjustable-speed V★S Drive controls and powers washer section. Right: Process box drive to which washer motors are synchronized.*

with

## RELIANCE V★S DRIVE




*Conveniently-packaged, space-saving V★S Drives are available from 1 to 200 hp.*

In every mill it enters, Reliance V★S Drive makes operations more flexible and simpler through electric control. And the result is always the same: *Faster Processing and Lower Costs.*

Speed changes are stepless—over an infinite range, the V★S way. Starts and stops are quick and smooth. Proper tension can be maintained continuously. And all functions of this *All-electric, Adjustable-speed Drive operating from A-c. Circuits* can be controlled automatically or manually—at the machine or from remote stations. Write today for Bulletin 311-A.

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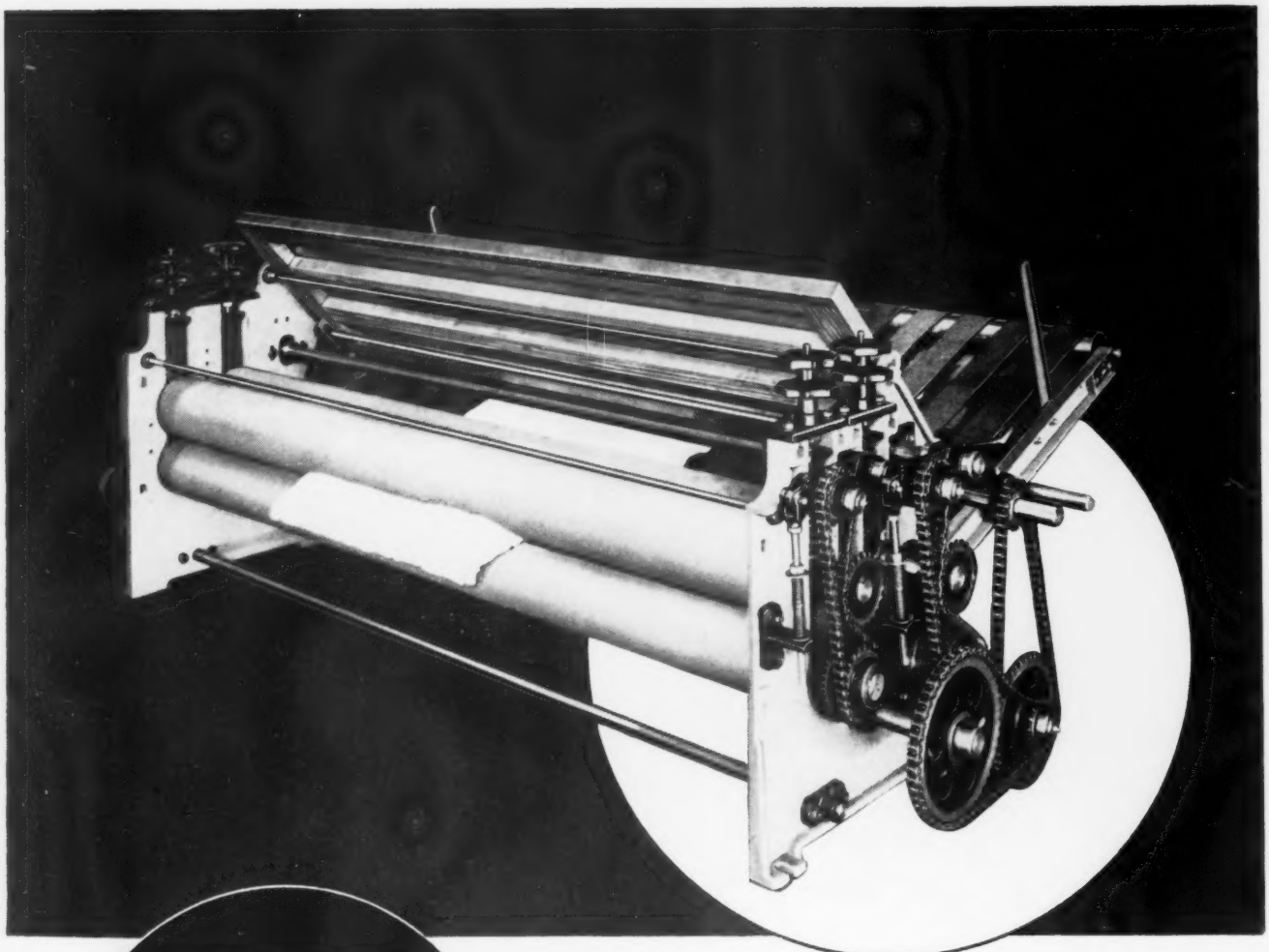
**RELIANCE A-C D-C MOTORS**

*"Motor-Drive is More Than Power"*



# WHITNEY ROLLER CHAIN

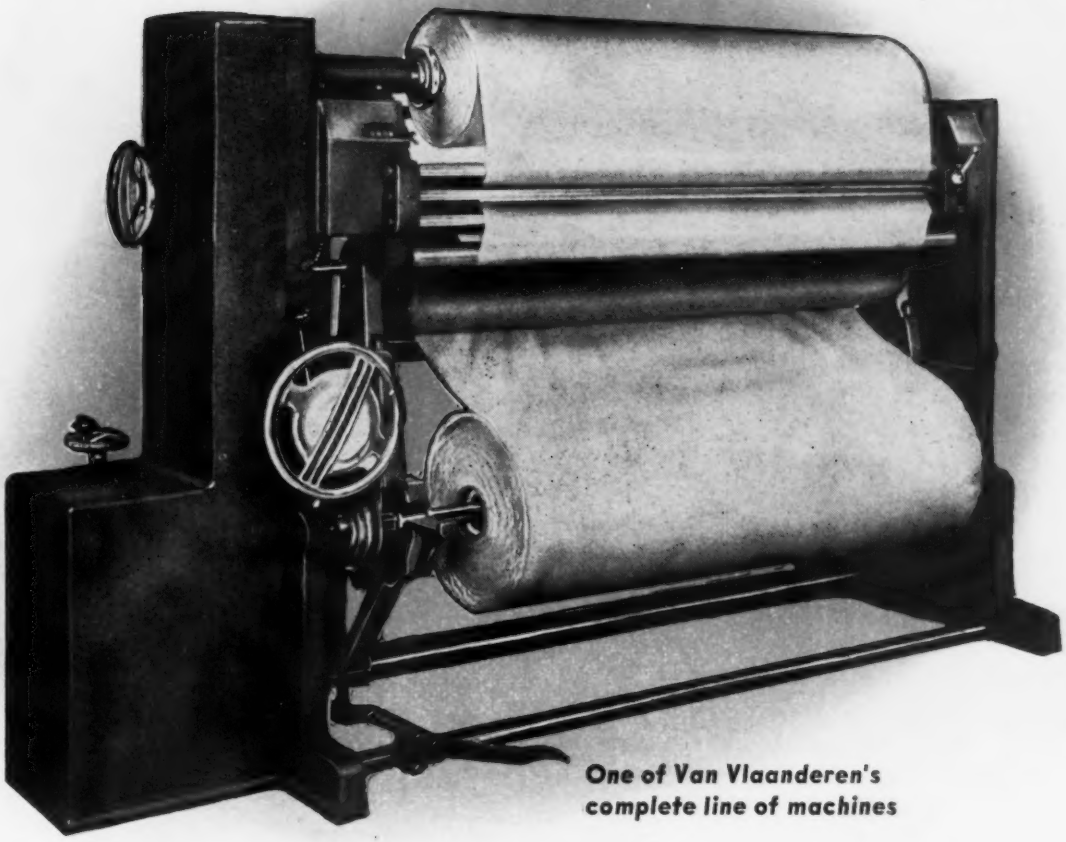
## *helps the HUNTER Automatic Batt Cutting-Off and Folding Unit Cut Heavier Batts Faster*

The new Hunter Automatic cutting-off and folding unit offers the Garnett user faster, more efficient cutting and folding of heavier batts to predetermined length, width and thickness.

Hunter, like most progressive textile machinery manufacturers, uses Whitney chain drives to transmit full rated power to the driven mechanisms. They know from experience that Whitney Chain . . . *the all-steel drive* . . . delivers constant power without slippage or friction loss. They know, too, that this constant smooth drive helps to maintain product uniformity and reduce spoilage. And because Whitney Chain withstands shock loads, it gives long lived service with minimum maintenance.

Whether you manufacture spinning frames, woolen cards . . . in fact, any type of textile machinery, it will pay you to *standardize* on Whitney Chains and accurately Cut Tooth Sprockets. Write for information or engineering assistance, today.

**THE WHITNEY CHAIN AND MFG. COMPANY**
**HARTFORD 2, CONNECTICUT**



*One of Van Vlaanderen's complete line of machines*

# TIME TESTED, NOW EVEN BETTER

This Van Vlaanderen Tubing Machine has done excellent work through the war years. Now it has been improved to process up to 250 yards a minute and to take larger diameter rolls on tubes.

Operation of the machine is through mechanical controls within easy reach of the operator. Cloth speed is constant and measuring is accurate and dependable. Ball bearings are used throughout. Motor and 1-3 variable speed drive. Lubricated parts are sealed in oil.

***Write for full information on this machine***

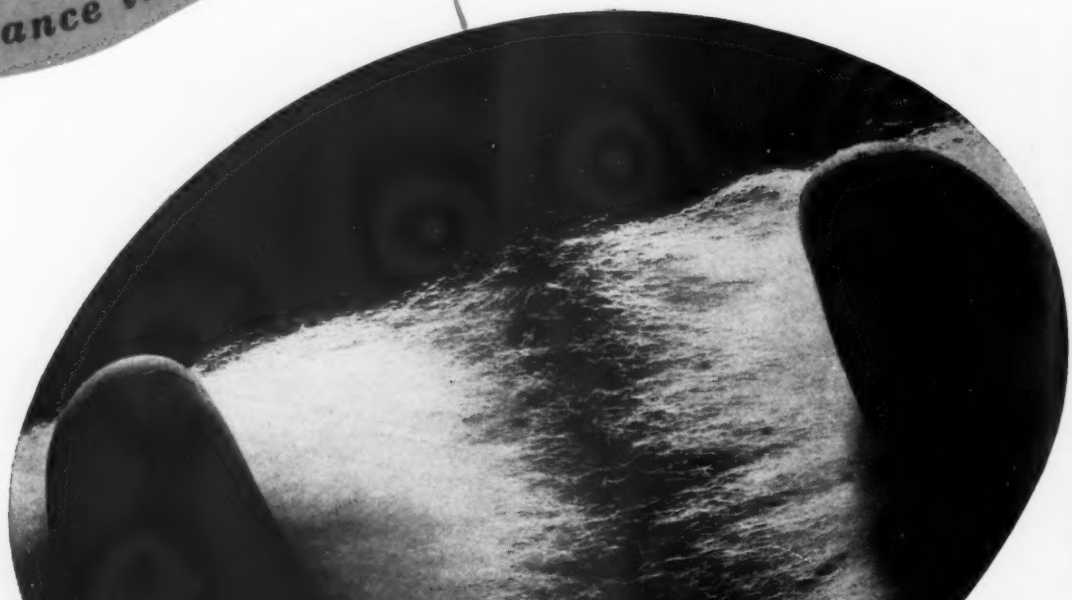
## VAN VLAANDEREN MACHINE COMPANY

370 Straight St., Paterson 3, New Jersey • Cable Address: VLAANDEREN, PATERSONNJ, U.S.A.

***World's largest manufacturer of machines for processing modern fabrics***

*for fabric stability*

*resistance to wrinkles*



*go back as far as the fiber—*

*TECA

Eastman *crimped* acetate staple builds increasing demand with its two leading properties—a low moisture absorption which helps control shrinkage—a springy liveliness which combats crushing. All-TECA fabrics, and compositions where TECA is used in the higher percentages, have these qualities spun in *right from the start.*

Mills consider TECA the logical fiber to improve the appearance and efficiency of new fabrics—are continually experimenting with a wider range of deniers and lengths, used alone or in combination with other fibers—on cotton, worsted, wool, and silk systems.

*EASTMAN *crimped acetate rayon*

For further information about TECA, consult A. M. Tenney Associates, Inc., 10 East 40th Street, New York 16, sales representatives for TENNESSEE EASTMAN CORPORATION (Subsidiary of Eastman Kodak Company), KINGSPORT, TENNESSEE.

# WHILE WE DELAY—

# Russia Drives for the Atlantic

**IN THE STRUGGLE to keep western Europe west of the Iron Curtain it is later than you think. Unless the United States quickly mobilizes its own and other nations' resources, World War II will be lost as World War I was lost—by no economic follow-through.**

Millions of people in western Europe, living in cold homes or no homes at all, face another winter of near starvation. Some countries are absolutely without dollars to buy abroad the food and fuel they need for survival. Others slide toward that desperate state.

In this welter of misery Russia grasps for dominion over all Europe. Everywhere, as cold and hunger deepen and as men begin to doubt America's determination to help, Russia turns on the pressure. In France the Communists drive to overthrow the Government. In Italy they do likewise. In Greece Russia kills the United Nations investigating commission. In Trieste Tito elbows us out of the way. In Germany and Austria the Soviet commanders alternately stymie and flout the Allied governments.

**FACED WITH this bloodless attack, the leaders of western Europe and of the United States have not covered themselves with glory.**

Look, for example, at what the sixteen European countries participating in the Paris meetings on the Marshall "plan" first proposed to the United States as a catalog of their needs. In the main it was simply an adding up—to $30 billion—of what the various countries thought they needed to keep going in the same old way at the same old stands. There was no real start on plans for the mutual aid by European states which is the essence of a successful recovery program . . . no real start on plans to knock down the barriers which divide European trade into hopelessly inadequate little pockets . . . no real plans to clean up currencies which deteriorate so fast nobody wants to work for them. *In fact no plans to make people want to work.*

Meanwhile, what have our leaders offered? Not much more than one fine commencement speech by General Marshall, outlining a good idea, and a couple of carloads of statistics, with more to come.

Not even a beginning has been made on the most crucial part of any European aid program—*that of explaining to the American people what their part must be and why.* It is true that not all the reports of all the statistical committees have been completed. They never will be. But it is also true that the broad outlines of what the United States must do to save Europe are already clear. And it is not simply to provide more dollars, although $12 to $16 billion more—the cost of 6 or 8 weeks fighting in World War II—may be required.

A far more basic requirement is leadership which will lift Europe out of the slough of despair and get recovery rolling. Without that leadership more billions for Europe will buy us nothing but more bitterness and remorse on both sides of the Atlantic.

**WHAT ARE the ingredients of that leadership? Here are a few:**

**1. A bi-partisan program for European recovery.**

It should be so thoroughly understood and so overwhelmingly supported by both parties that playing politics with it will be like selling military secrets to the enemy.

Truman and Vandenberg have failed miserably to develop and explain a complete program—one in which Europe and America can have full confidence. Nor have Taft and Dewey and other candidates for high office pledged that politics will stop at our shoreline. These men must speak out. To date Herbert Hoover alone has had the courage and vision to state a program.

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Some food experts are comfortably confident that the stretching can be done. But

meatless and wheatless days, higher extraction of flour from wheat and similar voluntary conservation moves would make it surer. And they would demonstrate that a free country can mobilize itself to meet a very serious crisis.

**3. An understanding that relief is one problem and recovery another.**

Both problems must be solved. Relief emergencies must be met, some of them at once. But they must not black out the longer task of recovery. Italy illustrates the point. Italy, particularly the south, is flat broke. Help is needed right now to keep people from dying in the streets. But we must eventually do more than keep the Italian people alive. We must help them get back to useful work so that they can stand on their own feet.

**4. A steady insistence on results—which means that Europe must find a way to make its people want to work.**

In the U.S.S.R. they have a way to get things done. It is to liquidate those who do not work. In the U.S.A. we have a way to get things done. It is to create incentives to make people want to work. Western Europe, notably France and Britain, has fallen between two stools. It has socialized away the incentives, and it does not yet, thank heaven, enslave the laggards. We should make it crystal clear that we have no designs on the national "sovereignty" of others. But we should make it equally clear that we insist that those countries which receive our aid work hard enough to get results. To this end continued aid should be on an installment plan, each installment conditional on getting results. Otherwise more billions can easily disappear down the drain.

**5. Insistence on all-out self-aid by European countries.**

That is the constructive core of the Marshall idea—to help Europe to help itself. In his brilliant "Report on Germany" and how to get it "off the backs of the American taxpayer," Lewis H. Brown, Johns-Manville Chairman, shows how the export of only 10 million tons of coal a year from Britain to western Europe would speed industrial recovery of the Ruhr immeasurably. There are countless other cases where effort in one European country—or a group of countries—will break a big industrial bottleneck in another. We should insist that everything possible be done to see they are broken.

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It is truly said in the scriptures that the Lord loveth a cheerful giver. But it is not recorded anywhere that anyone, including the recipient, loves a soft-headed giver. Hence as a capstone any program of aid for Europe should have machinery assuring that only what is needed is sent; that what is sent does the job for which it is sent; and that arrangements are made for the recipients to pay back whatever they can.

**THE AMERICAN PEOPLE should be told clearly by their leaders that there is no assurance that the best possible program of economic aid for Europe will do the job. The time is very late.**

In France and Italy, as our help falters, the Communists right now are provoking strikes which will make the people's suffering more acute. They hope, of course, to overthrow the governments in both those countries and to seize control. If Communist dictatorships are clamped on France and Italy this fall, Russia and her satellites will have advanced to the Atlantic. The Iron Curtain will have moved 500 miles west—toward us.

Americans should be clearly told, therefore, that not to undertake an immediate program for the recovery of Europe is to bring closer the greatest possible national disaster—World War III.



*President, McGraw-Hill Publishing Company, Inc.*

THIS IS THE 61st OF A SERIES

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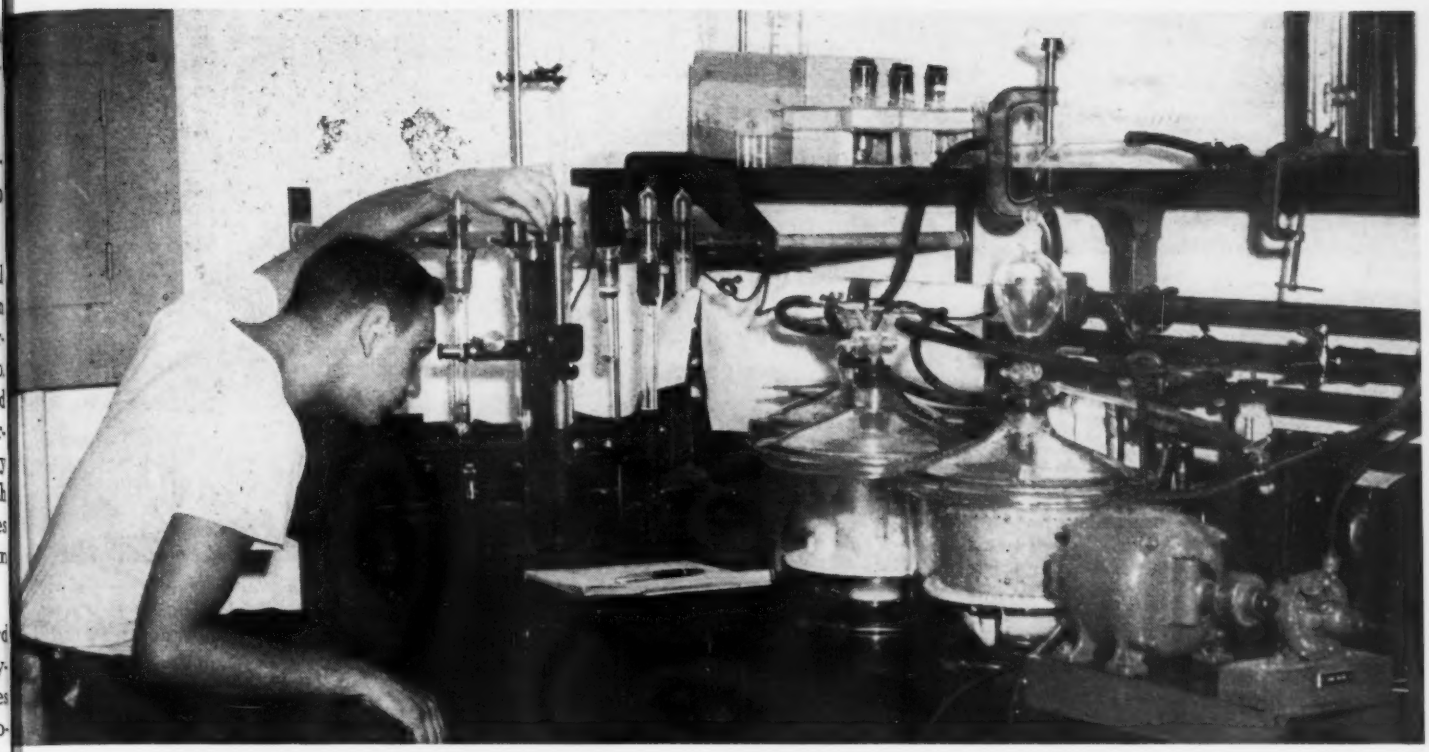


**The TRI-developed device** *for conditioning fibers to any temperature and humidity and testing them independent of room temperature and humidity through mercury immersion is at the right. At the left is an apparatus for measuring the swelling properties of fibers.*

# TRI ANGLE OF RESEARCH

**HIGHLIGHTS:** *First-class, well-integrated research team evolved from three-way relationship between Textile Research Institute, Textile Foundation, and Princeton University—Fundamental and engineering research combined in broad program at Princeton laboratories—Special instruments developed where needed—Results made available through publications—Development of program and facilities continues.*

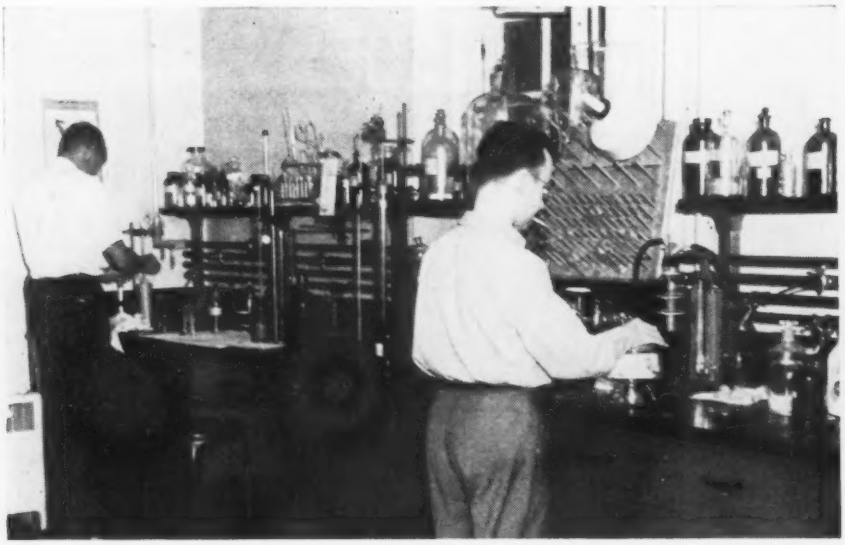
**By WILLIAM A. NEWELL,** *Assistant Editor, TEXTILE WORLD*

A SOLID TRIANGLE of research has been forged.

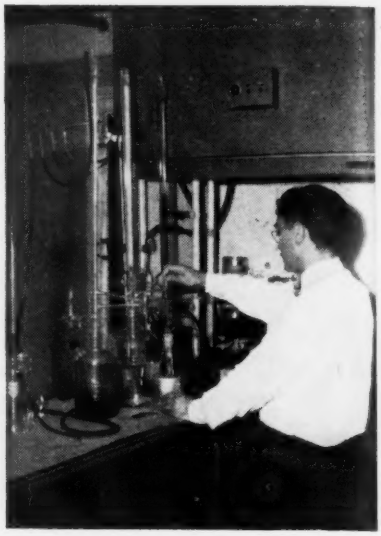
Crowning many years of planning, organization, and development, the formal linking of The Textile Foundation, Textile Research Institute, and Princeton University, has evolved a well-balanced, frictionless research team.

TRI was organized in 1930 to meet the need for cooperative research in broad fundamental and engineering subjects embracing all fibers, and to meet the need of the textile industry for men educated in scientific research in the textile field. The Textile Foundation, an organization created in 1930 by Act of Congress to engage in scientific research for the benefit of the textile industry with funds resulting from a World War I activity, decided upon TRI as a suitable permanent research organization with which to coordinate its activities in order that these activities might be carried on when the funds and life of the foundation terminated. This coordination of insti-

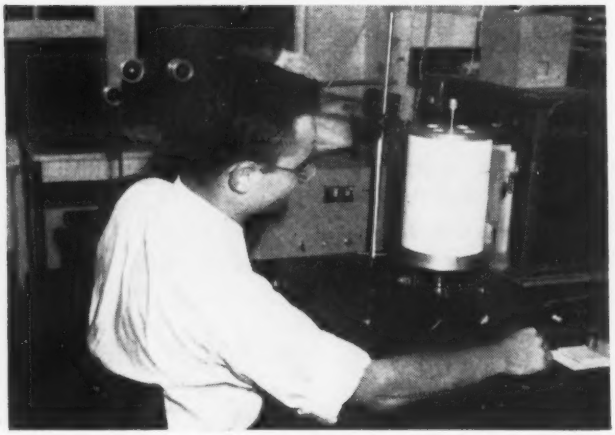
# UNIQUE EQUIPMENT DEVELOPED FOR EXPLO AT



**Work on the structure** *of cellulose and starch is carried on in this organic chemistry laboratory.*

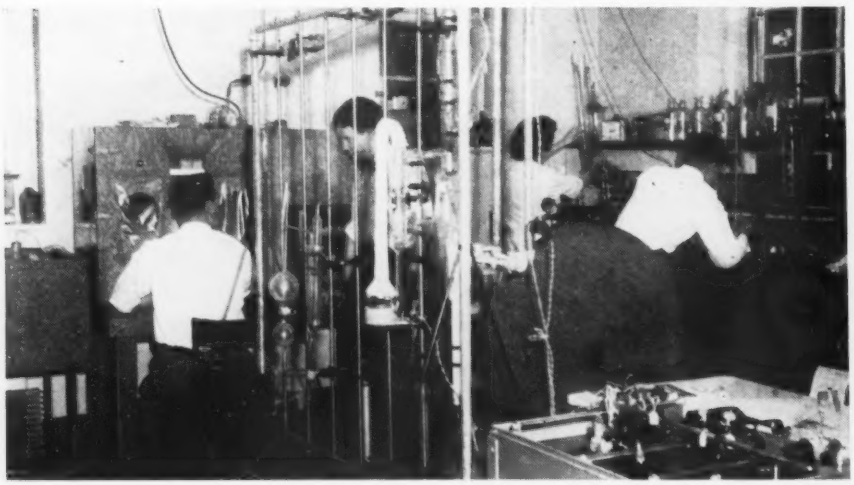


**Dr. Bender,** *an institute staff member, makes a moisture determination test on the Karl Fischer apparatus.*

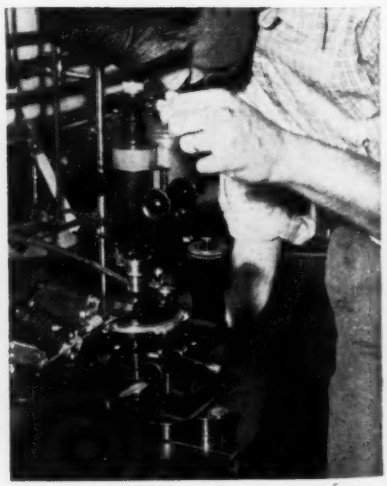


**Institute fellow** *Harris Burte, co-author of the Burte-Halsey theory of fiber behavior, watches the record of measurements of mechanical properties of fibers made by the Rutherford-Sookne balance.*

***A full-time laboratory technician*** *makes weighings for moisture determination tests in one of the laboratories for mechanical property measurement.*



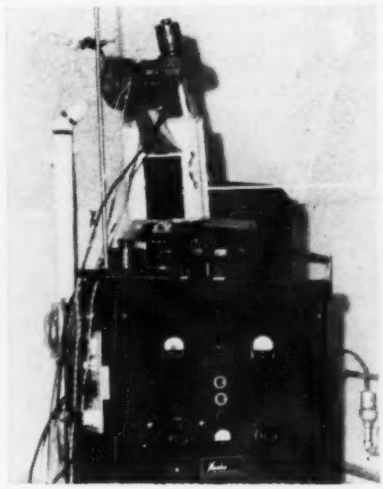
**The moisture-adsorption** *properties of fibers are measured on the TRI-developed instrument in the left background, and measurement of the degree of polymerization of cellulose is being measured in the right background. TRI-made equipment for moisture adsorption measurements is in the center, and at the right foreground is a constant-temperature bath.*



**The swelling of fibers** *at varying humidity under tension may be observed by the TRI-developed attachment mounted on the microscope stage.*

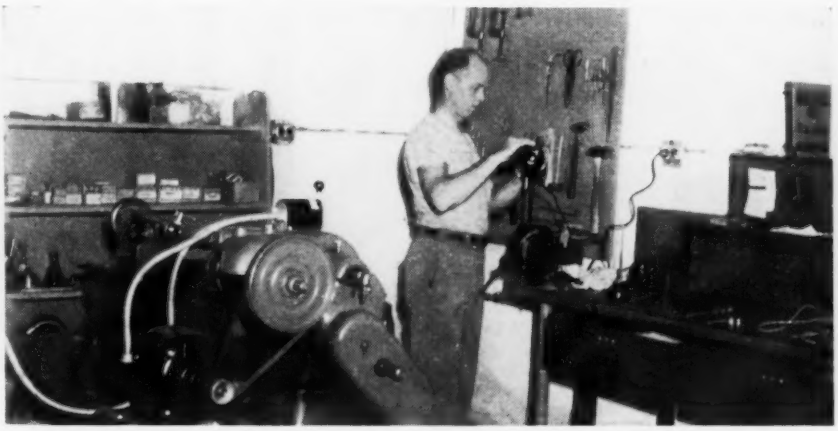
## ATION OF FIBER ANATOMY . . .

***Properties of sized yarns** are here being measured on a dynamic-resilience tester coupled to an oscillograph by William Tily, a graduate student of Princeton in chemical engineering.*



***The Phillips X-ray diffraction unit** is equipped with a TRI-developed attachment for studies of crystallization of fibers and films at high or low temperatures and at various states of strain.*

***Dr. Howard White,** the first institute fellow to receive his doctor's degree, tests the gas-blowing apparatus used for custom-blowing of much of the glass apparatus used in the laboratories.*



***A machine shop** equipped with lathe, hand-saw, drill press, shaper and other tools has been set up for manufacture of instruments, parts; and for repair work.*

tute and foundation research has developed over a period of years until their research work is now under a joint director and the foundation conducts its research in the institute's laboratories. When the institute felt that construction of its own laboratories and the assembling of a research staff was justified, Princeton University was decided upon after considerable study; and a house well suited for conversion into a series of research laboratories was obtained at a fraction of its replacement cost.

A capital fund of $90,000 was subscribed by leading member firms toward the cost of purchasing and equipping the laboratory, and at present dues are on a sliding scale ranging from 1¢ to 1½¢ per $100 of annual sales with a top limit of $1,500. This is supplemented by a provision for sustaining memberships enabling the larger firms to furnish additional support to research in proportion to their size.

In the early stages, laboratory space and instruments were rented and borrowed from Princeton University, and administration heads gave generously of their time in an advisory capacity. In February, 1946, the directors elected Lewis Sanders full-time president of the institute. Dr. John H. Dillon was secured for the post of director of research, and Prof. John C. Whitwell as associate director.

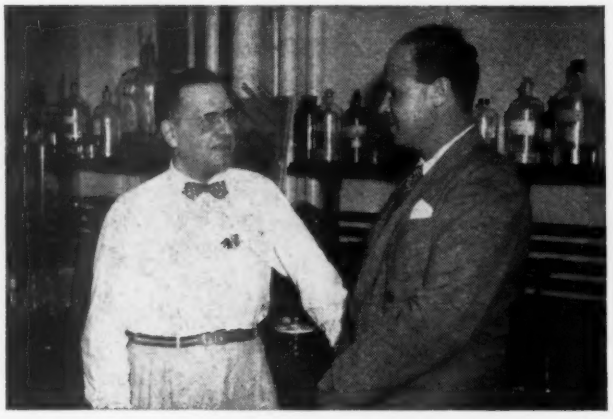
The institute has 24 directors and 12 members of the Research Advisory Committee. The staff has been supplemented by four research chemists, two technicians, a librarian, and a machinist; and there are 15 research fellows. The research fellows are enrolled in Princeton University, where they undertake graduate work in no way different from the regular graduate student, except their thesis is performed in the TRI laboratories under the direction of the TRI staff. Advanced degrees obtained are conferred by Princeton University.

**EQUIPMENT.** The research equipment of both institute and foundation has followed closely the line of development of their research staffs. Frequently used standard equipment has been obtained, and Princeton University allows the use of occasionally needed expensive instruments which are in its laboratories when there is no interference with regular university activities.

Special instruments have been developed at the laboratories for investigations for which no standard equipment existed that would yield the information needed. Among these are a drying apparatus for repeated weigh-

## INTEGRATED RESEARCH TEAM GUIDES PROGRAM

**Lewis Sanders** *(left), president of TRI, confers with Dr. John Dillon, Director of Research, in Dr. Dillon's office at Princeton during one of their periodic conferences.*



**Dr. Eugene Pacsu** *(left), a recognized specialist in the chemistry of sugars and starches and a part-time staff-member, confers with Dr. George Taylor, a physical chemist, who will supervise pure research in mechanical properties of fibers and X-ray diffraction.*

ings of yarns or fabrics while being dried without interrupting the drying process; and a device for conditioning and testing individual fibers at any humidity or temperature desired regardless of the humidity and temperature of the room atmosphere.

Special instruments are approaching completion for determining the resiliency of yarns under varying conditions; for measurement of fiber properties at constant rates of elongation and loading; for determining the coefficient of friction of sized yarns; and for measuring size pickup of different yarns under various conditions.

Most recently delivered was an Instron tensile-strength machine, an inertia-free machine for measuring stress through electric strain gages. It automatically subjects a yarn to a repeated series of loading cycles and records the results in chart form. Seventeen rates of elongation are available. This machine, it is expected, will produce engineering data on the relation of fiber properties to yarn properties—a step toward enabling the engineering of fabrics.

**UNDER CONSTRUCTION.** In addition to the many laboratories pictured here, several others are under construction. A room has just been completed for obtaining variable conditions of temperature and humidity. Conditions in this room can be varied from 45° to 90° F., and 15% to 90% r.h. A new chemical laboratory for fundamental study of dyeing is being built, as well as a physical measurements laboratory. Several new offices and a microscopy laboratory are planned.

A broad research program of wide interest to the textile industry requires time for development as it must grow by evolution because of interrelationships between many lines of research.

The institute started its research program by finding research problems of sufficient interest to induce financing by a group.

The first important project was an investigation of the output of cotton cards with a view to increased production. This was carried out for the institute by the School of Textiles, North Carolina State College, and was financed by the Quartermaster Corps. An impartial textile man estimated the value of the research to southern cotton mills at more than two million dollars.

A series of tests were made on the sizing of filament rayons with gelatin size and spun rayons with starch and gum sizes. These were financed by groups of 18 to 20 concerns and the work was done at Massachusetts Institute of Technology; the School of Textiles, North Carolina State College; and the Bureau of Standards at

## TRAINED TECHNICIANS ASSIST IN PROGRAM

**Two full-time laboratory technicians** *measure rheological properties of starch mixtures (left) and operate apparatus for moisture equilibrium determination (right).*

**Atmospheric conditions** *in this room normally are constantly maintained at 70° F. and 65% r.h. The laboratory technician is making a moisture determination under variable conditions on the Steinlite machine. Control apparatus and recorder are on the wall.*

## AMID PLEASANT AND INSPIRING SURROUNDINGS

***The house purchased*** *for laboratories was built by the original owner of fireproof construction, and could hardly have been better suited if designed for the purpose. Only one partition on the ground floor needed to be removed for the conversion.*

***A library is available*** *within the building for use of the institute staff and fellows. Only books and periodicals pertaining to the textile research work are kept here, and the facilities of the Princeton University library are available for other information.*

Washington. While no improvements in sizing resulted from this work, it did mark certain lines of sizing improvement and of experiment in size composition as "dead-end streets." The work also furnished the background for the present institute program of research in this field.

As a further contribution to the solution of sizing problems, the institute, with the collaboration of some textile schools, has just concluded a series of regional conferences, attended by more than 200 textile men, the objectives of which were to stimulate free discussions and to pool all information available on the subject. A consolidated report of the conferences is in preparation.

Extensive research was made into the moisture-equilibrium points of the principal textile fibers. Foundation data have resulted for the moisture content of the several fibers for wide ranges of temperature and relative humidity; and information has been furnished on which proper standards can be set for standard moisture content of fibers and fabrics to which weights should be adjusted in commercial transactions, and on the regain to which fabrics should be dried as influenced by mill temperatures and relative humidity.

The initial research on moisture equilibria has recently been amplified at Princeton by mathematical analysis through which formulas were developed permitting extension of the curves beyond the experimental region. This also permits the calculation of the entire moisture-equilibrium curves for new fibers and can be ascertained after the determination of only three or four points.

(*Continued on page 192*)

### GUIDING HANDS

A major asset of both the institute and the foundation is the broad scope and concentration of known ability lent by the men serving as directors or as members of the scientific advisory committee.

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# Efficiency and Flexibility Offered by FINISHING RANGES

***HIGHLIGHTS:*** *Development of continuous preparation and dyeing ranges enables efficient finishing operations—Savings effected in labor and time—Product more uniform—Ranges are flexible and may incorporate some present equipment—Processing speeds range from 150 to 300 yd. per min.*

**By C. NORRIS RABOLD**
*Consulting Editor, TEXTILE WORLD*

THE DEVELOPMENT OF continuous preparatory and dyeing ranges in the past two years should do much to still criticism of backwardness of textile finishing. These ranges are of two types: continuous scouring and bleaching ranges which prepare cloth for dyeing, printing, or whites in a few hours or less; and continuous dyeing ranges capable of applying the fastest types of dyes to all constructions and weights of fabrics in practically any depth of shade in a matter of minutes rather than hours.

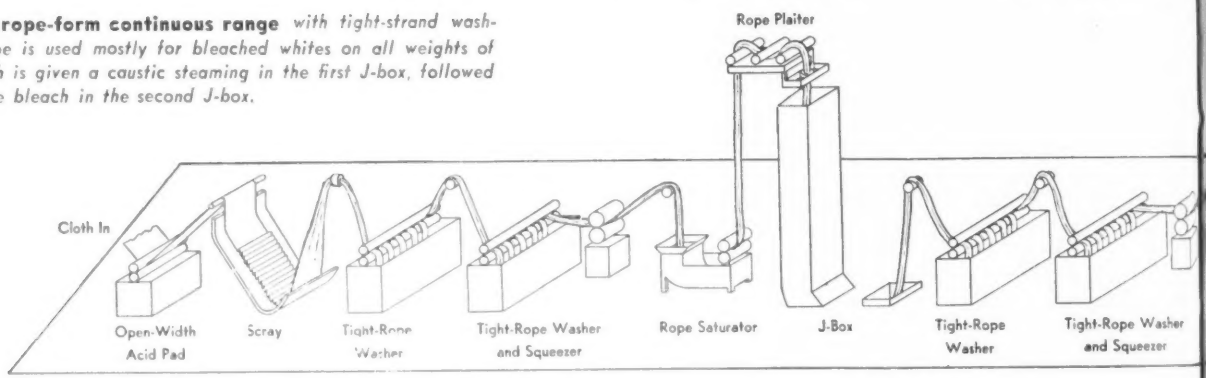
Continuous ranges have much to offer as replacements for intermittent batch operations. Time and labor can be saved, and greater uniformity of product obtained.

Today's ranges are well engineered and constructed. Most of them are made of non-corrosive metals throughout; and drives, bearings, and other mechanical equipment are of the best design. Controls are usually mounted on a central panel for simplicity of

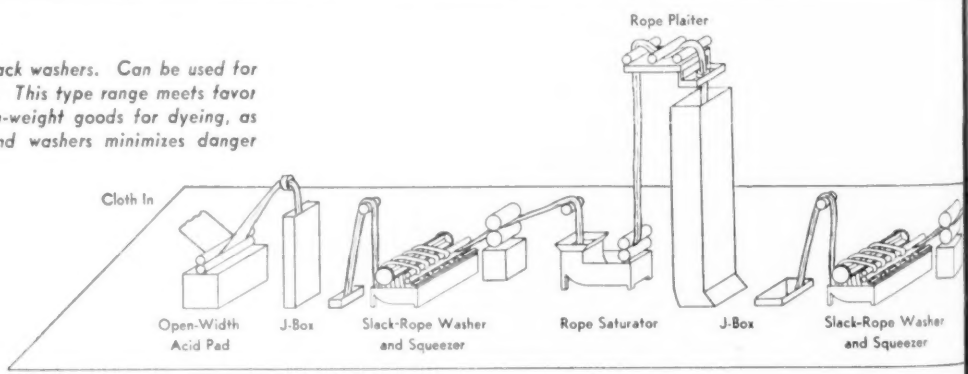
## CLOTH-PREPARATION RANGES

*Becco Systems—Buffalo*

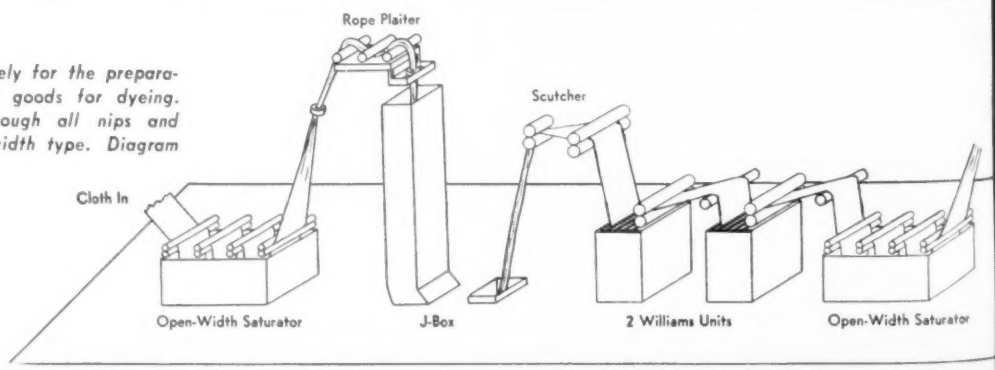
**High speed rope-form continuous range** *with tight-strand washers. This type is used mostly for bleached whites on all weights of goods. Cloth is given a caustic steaming in the first J-box, followed by a peroxide bleach in the second J-box.*




**Rope-form continuous range** *with slack washers. Can be used for bleached whites on all weights of goods. This type range meets favor in the preparation of light- and medium-weight goods for dyeing, as the substitution of slack- for tight-strand washers minimizes danger of bruises and crease marks. Certain sheer or loosely woven cloths cannot be run through tight-strand washers and are best processed on this type.*




**Semi-open-width range** *used largely for the preparation of medium- and heavy-weight goods for dyeing. Goods are in the open-width through all nips and squeezes and washers are of open-width type. Diagram shows Williams units as washers. This makes it possible to run such fabrics as twills, gabardines, etc., with little danger of bruises or rope marks.*



operation. Modern instrumentation and engineering make possible the recording, measuring, and proportioning of chemical feeds, steam, water, temperatures, levels, and time intervals —all-important factors in the efficient operation of ranges. It is often possible to utilize existing squeeze rolls reels, washers, pads, soapers, dryers, and other equipment, thus reducing installation cost.

Ranges for both preparation and dyeing are exceedingly flexible, so that a variety of processes may be carried out on them, depending on the problem in hand.

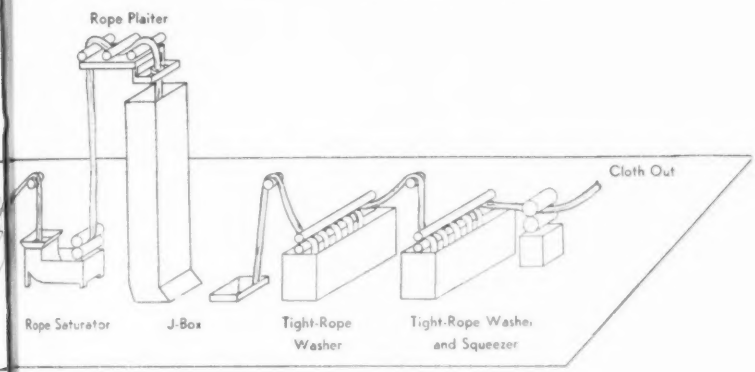
**PREPARATION RANGES.** On a two-stage preparation range, caustic scouring is usually carried out in the first section and bleaching in the second; but for goods going into medium or heavy dyed shades, caustic soda may be employed in both sections. In preparing colored yarn goods, a hydrogen-peroxide-bleach mix can be run in both units of the range; or the first unit may be used for desizing and the second for bleaching.

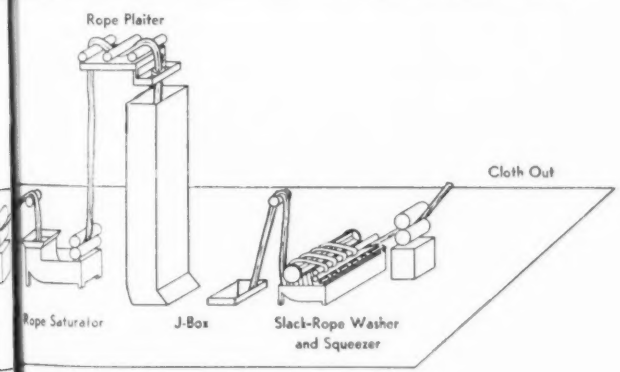
Where volume of production does not warrant a double-unit range, a one-stage unit may be utilized. With this unit, goods may be first given a caustic steaming and then held in boxes until enough yardage is accumulated to warrant changing over from the caustic steaming to a peroxide bleach.

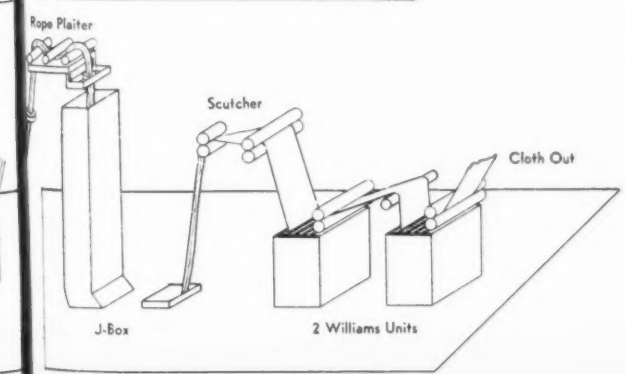
Operational speeds of these preparation ranges vary from a maximum of about 150 yd. per min. for the open width types to 150 to 175 yd. per min. for the rope systems with slack washers, and up to 300 yd. per min. for the rope systems with tight-strand washers.

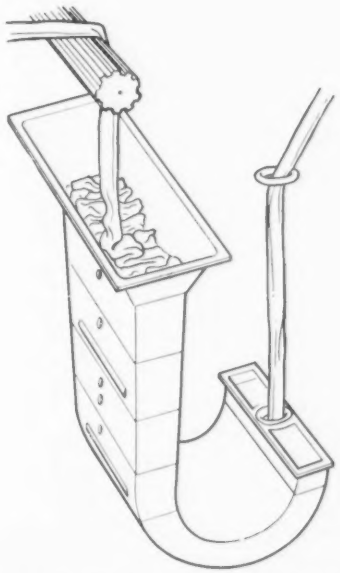
**DYEING RANGES.** On the two dyeing systems described in the diagrams, it is possible to apply nearly all classes of dyes to almost any fabric, whether cotton or synthetic, of almost any construction. Directs, sulphurs, naphthols, stabilized vat esters, and vats can be dyed with the same degree of fastness and range of shade as on jigs or becks, but in much less time and usually at a lower cost. The uniformity of shade from a range is much better than from a batch operation when ranges are efficiently operated and instrument controlled. Ranges are especially important in vat-color application, as the tedious operations required by this class of dyes can be shortened from several hours to a minute or so. Also, vats can be dyed on synthetic and mixed-fiber fabrics with little danger of chemical or mechanical damage when the range is designed to operate with a minimum of tension.

*Buffalo Electro-Chemical Co., Buffalo 7, N. Y.*



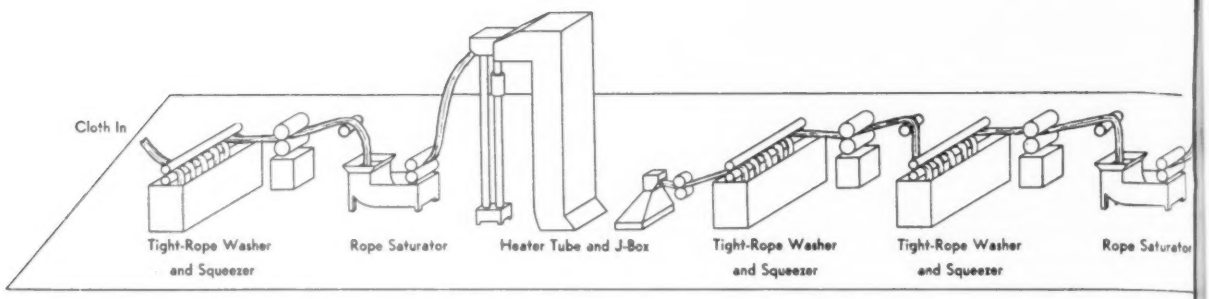



**Becco steam J-box.** *In the Becco system, the J-box itself is open at the top and steam is introduced directly into the box at one or more points, depending upon its size. There is little or no loss of heat or steam from the open top, as the entering cloth acts as a seal.*

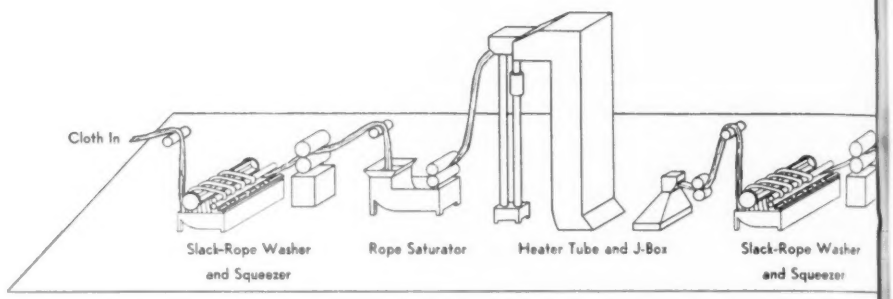
*On these and the four following pages are presented typical ranges used for continuous processing in preparation, bleaching, and dyeing. The identity and order of the necessary machine-units are shown in each group.*

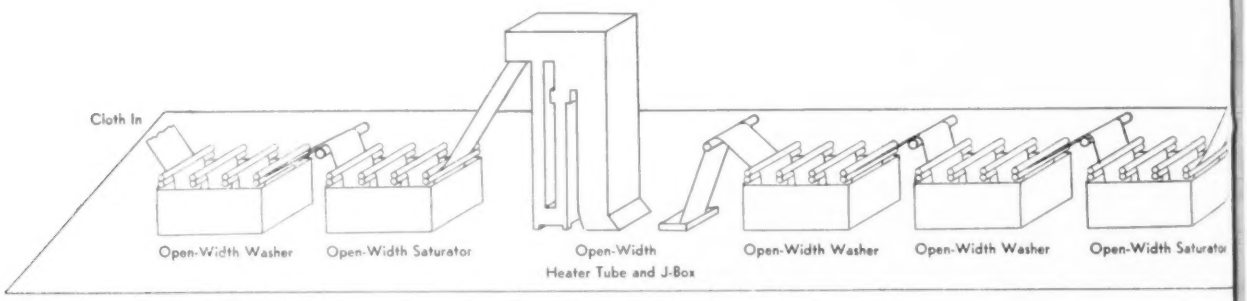
## CLOTH-PREPARATION RANGES

*Du Pont Systems—*



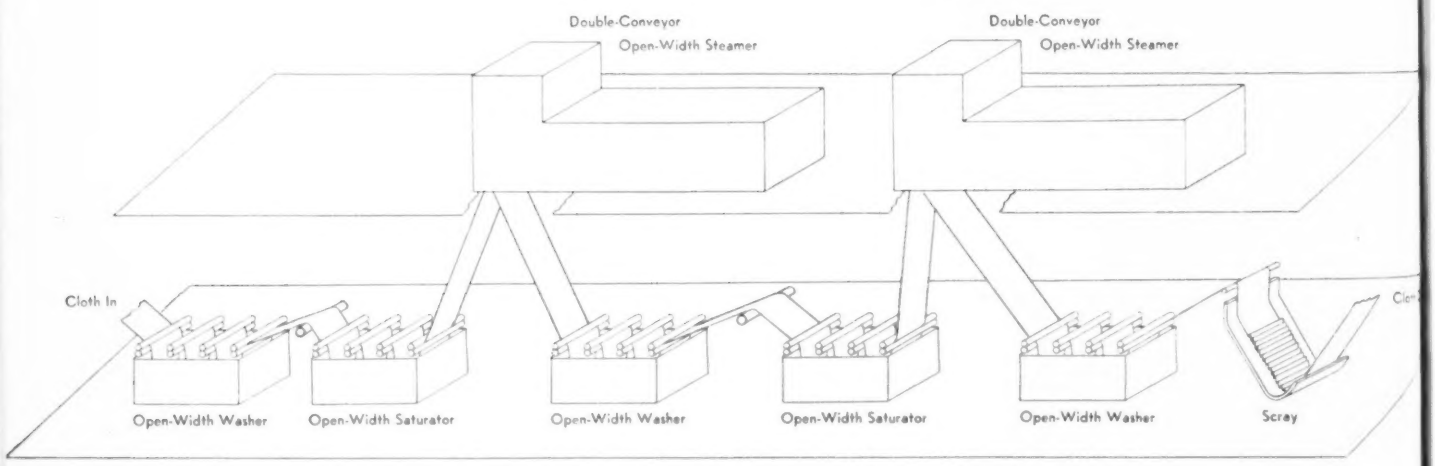

**Continuous rope** *preparation and bleaching range containing slack washers. This unit is designed for the bleaching of light-weight or loosely woven goods that will not stand the tension of a tight-strand washer. Since the danger of bruises is also decreased, some constructions run on this range may be dyed satisfactorily.*

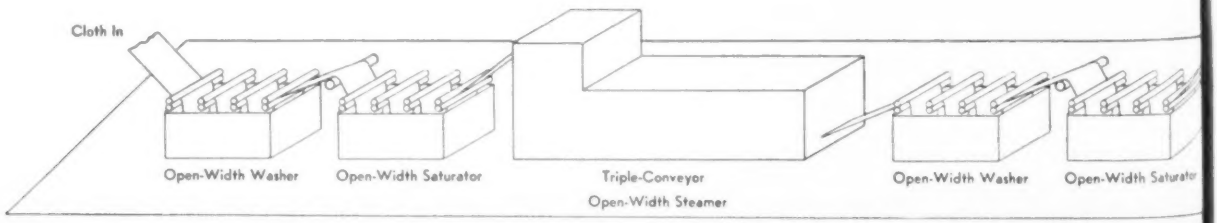


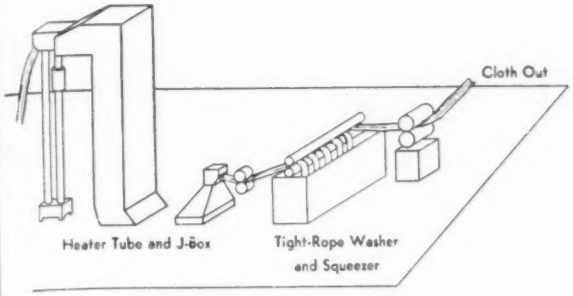

## CLOTH-PREPARATION RANGES

*Mathieson Systems—*

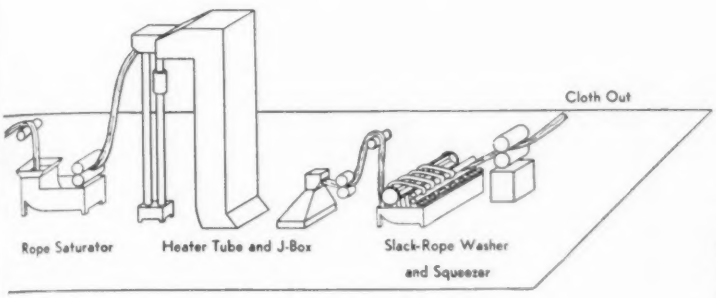


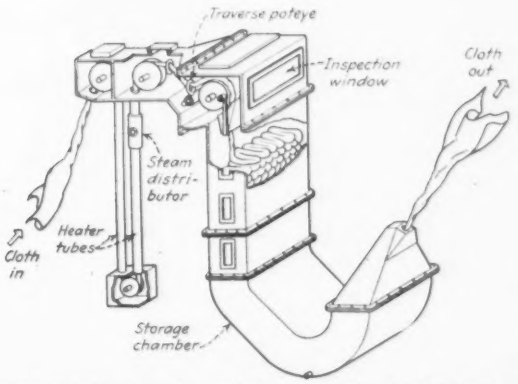



## *E. I. du Pont de Nemours & Co., Wilmington 98, Del.*

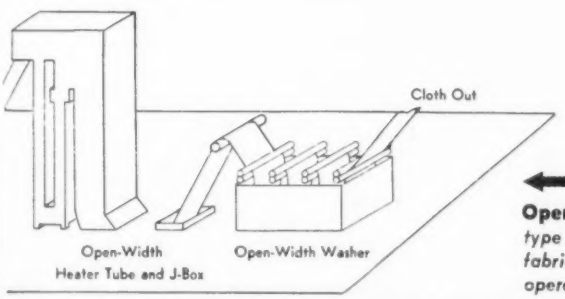



**Du Pont continuous rope** *preparation and bleaching range originally designed for producing whites on light and medium weight goods. This range is capable of high production speeds, and weights of cloths may be changed without any interruption in production.*




**Du Pont rope-type** *heater and J-box. In the Du Pont system, the cloth is preheated before entering the J-box. The goods pass through a pair of heater tubes containing steam and are brought to an elevated temperature. Since the heater tubes and storage J-box are one unit, little or no loss of heat takes place in storage. The same principle is employed in the open-width range, except the tube is designed to permit the cloth to pass through in open width.*

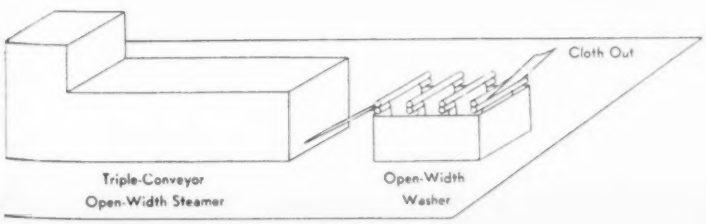



**Open-width continuous** *preparation and bleaching range. This type of range is designed to bleach medium- and heavy-weight cotton fabrics for dyeing. Since the goods are in the open-width through all operations, danger of bruises and crease-marks is kept to a minimum.*

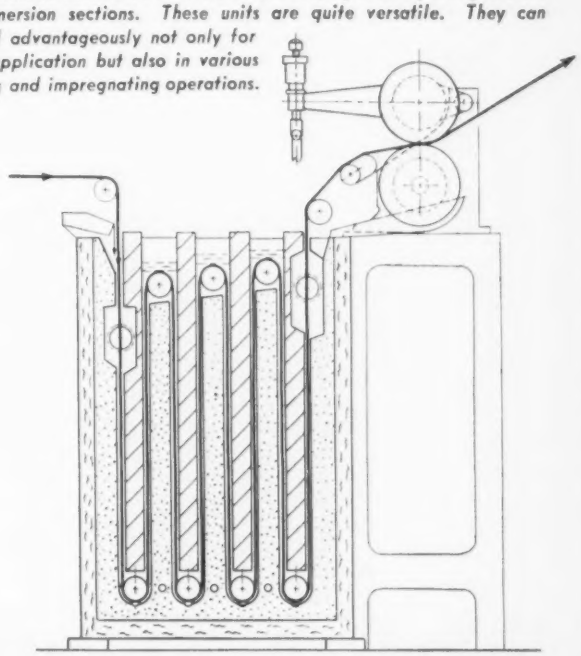
## *Mathieson Alkali Works, Inc., 60 E. 42nd St., New York.*

**A double-stage,** *all open-width range, using two endless stainless-steel conveyors in each steaming unit to carry the cloth. Fabrics of all types may be prepared on this range, both for whites and dyeing. It is most useful in the preparation of such types of cloth as may be bruised easily. As shown, the steaming units are located over the saturators and washers to conserve floor space.*

**A double-stage,** *all open-width range, with triple conveyors in the steaming sections. By the use of three conveyors, the length of the steamers is shortened considerably so that a straight-line layout is possible. Both the double and triple conveyors permit the changing of the cloth's position while in the steamer. This positional change makes for uniformity in moisture, chemical, and heat distribution throughout the cloth pile. Operating speeds of both ranges are about 125 yd. per min. maximum.*

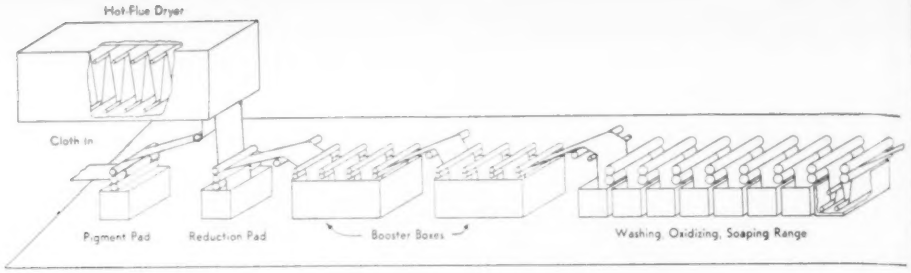



**A cross-section** *of a single Williams unit showing cloth travel, liquid and steam circulation, feeds, and squeeze arrangement at delivery end. The unit contains slightly over 60 gal. of liquor which can be heated to 200°F. or over, as desired, by steam passing around the immersion sections. These units are quite versatile. They can be used advantageously not only for color application but also in various washing and impregnating operations.*



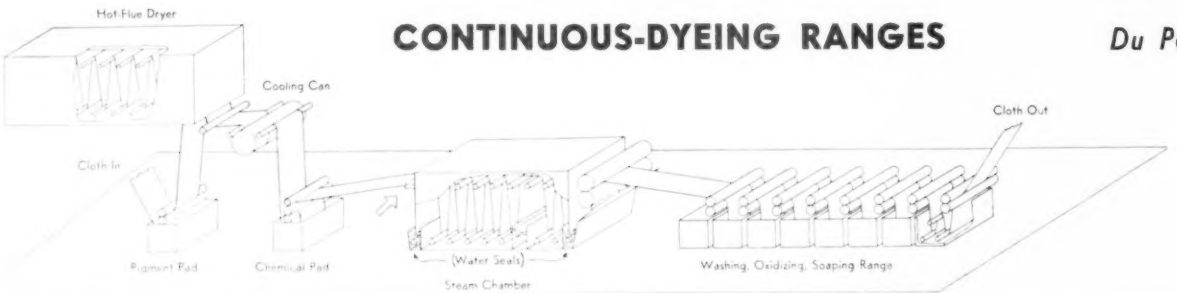
## CONTINUOUS-PREPARATION RANGES

*Dan River Mills, Inc.*



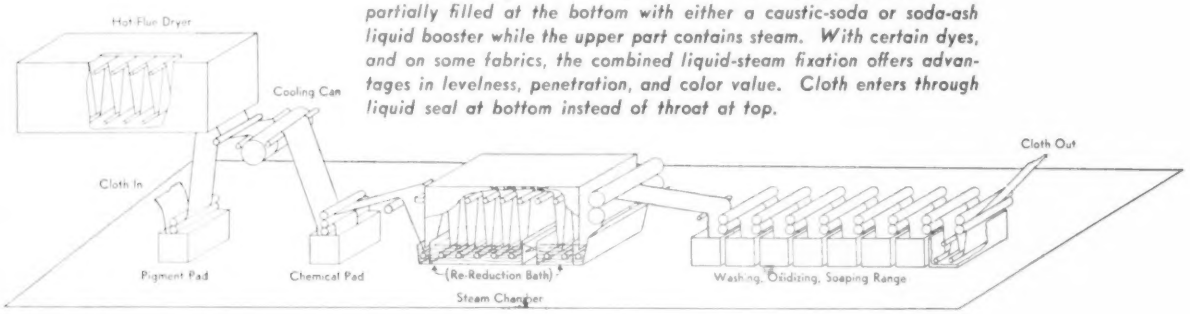

## CONTINUOUS-DYEING RANGES

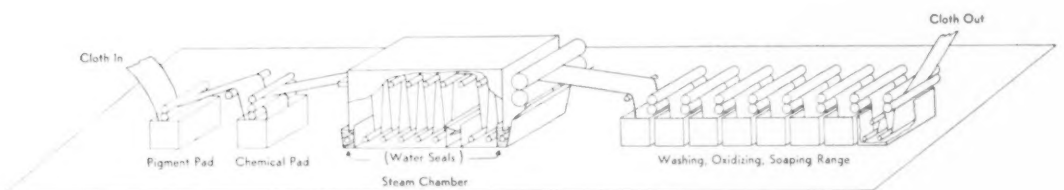
*Du Pont System*




**A complete system** *for the application of vat colors continuously in all depths of shade. The dispersed vat dyes are applied to the cloth in the pigment pad and dried through a hot-air dryer. The dried, pigmented goods then enter a chemical pad containing caustic soda and sodium hydrosulphite, passing wet into the steam chamber where they are steamed for a few seconds at or about 212°F. Rapid reduction and dyeing of color into the fiber takes place in this short steaming period. On leaving the steamer, the usual operations necessary for color fixation and fastness take place; namely, washing, oxidizing, washing, and soaping. Cloth enters through throat at top of steam chamber indicated by arrow and leaves through water seal at the delivery end.*

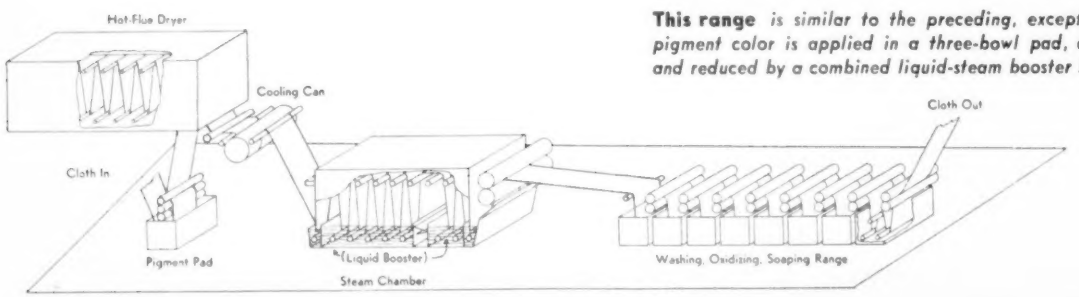
**Pigment-pad,** *dry, chemical-pad, steam, and liquid booster. This is the same range as shown above. The steam chamber, however, is partially filled at the bottom with either a caustic-soda or soda-ash liquid booster while the upper part contains steam. With certain dyes, and on some fabrics, the combined liquid-steam fixation offers advantages in levelness, penetration, and color value. Cloth enters through liquid seal at bottom instead of throat at top.*

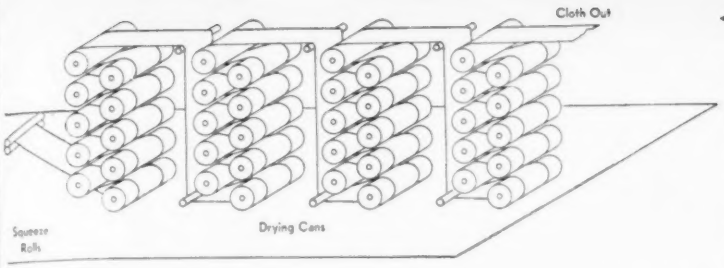



**Pigment-pad,** *wet, chemical pad, steam. On some shades and fabrics, it has been proved that it is unnecessary to dry between the pigment and chemical pad. Goods may be run wet into the chemical pad, a differential set between the two permitting the proper pickup of chemicals before entering the steam chamber.*

**This range** *is similar to the preceding, except for the dryer. Vat pigment color is applied in a three-bowl pad, dried into the goods, and reduced by a combined liquid-steam booster in the steam chamber.*



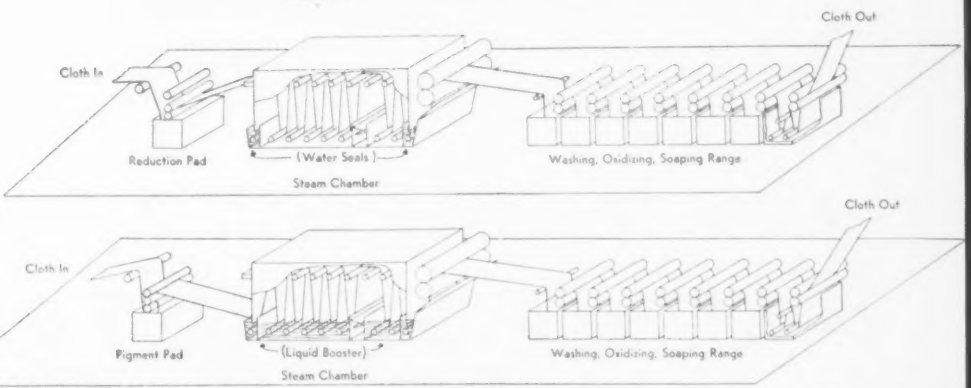



**Dan River Mills, Inc., improved range** *for the continuous dyeing of vat colors. Color is applied in pigment form, dried in the goods, reduced in a 3-bowl, multiple-immersion pad, and further fixed by a passage through two caustic-soda and hydro-booster boxes. Goods are then washed, oxidized, washed, soaped, washed, and dried in the same continuous operation. Some fabrics are dyed at speeds up to 200 yd. per min., many at 150 yd. per min., the limitation being not so much the nature or depth of shade as the capacity of the dry cans.*

*E. I. du Pont de Nemours Co., Wilmington 98, Del.*

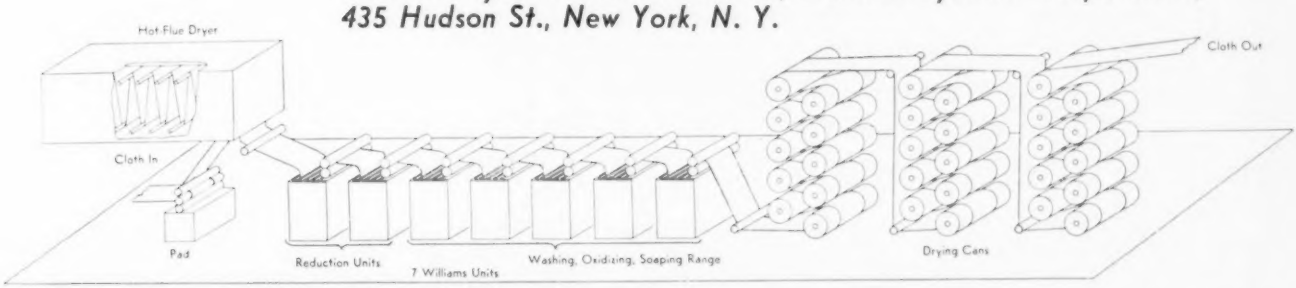
**Reduced pad** *steam range. This range set-up employs but a single pad which may be a two-bowl, one-dip type. Both vat and sulphur colors can be applied by this method in almost all depths of shade. Dyes are reduced in feed-tanks and fed into the pad box in the usual manner.*

**Single pad steam range** *threaded for pigment padding, steam, and liquid booster. In this case, the steam chamber will contain caustic soda and sodium hydrosulphite to effect reduction of the vat dye. By raising the top roll of the three-bowl pad and threading the cloth for one dip and one nip, reduced color may be applied and fixed in the steam-chamber by either a soda-ash or caustic-soda booster, combined with the steam atmosphere.*



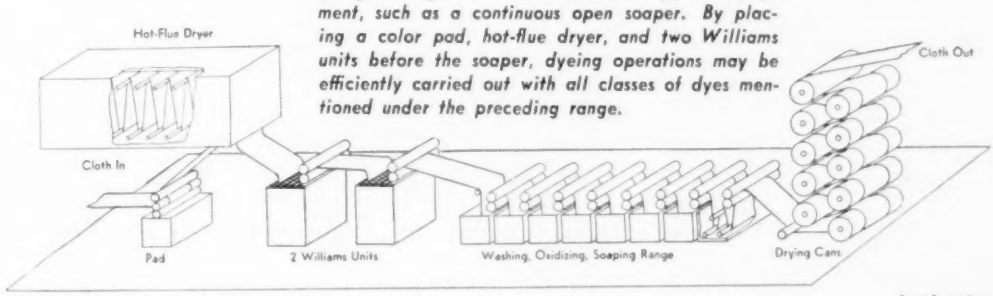

## CONTINUOUS-DYEING RANGES

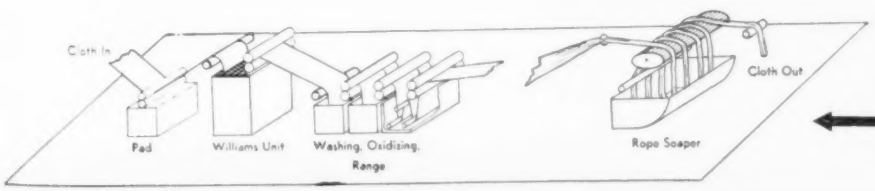
*Williams System—S. H. Williams, General Dyestuff Corporation, 435 Hudson St., New York, N. Y.*




**A complete,** *all-purpose range, consisting entirely of Williams units for the dyeing, rinsing, oxidizing, and soaping operations. Vats, naphthals, sulphurs, directs, stabilized leuco esters, and para colors may be applied to both light- and heavy-weight cloths on this range.*

**Range designed** *to make use of existing plant equipment, such as a continuous open soaper. By placing a color pad, hot-flue dryer, and two Williams units before the soaper, dyeing operations may be efficiently carried out with all classes of dyes mentioned under the preceding range.*




**A short continuous range** *used for the dyeing of rayons, multi-fibered fabrics, toweling, etc. with vats and other classes of colors. Vat dyes may be applied, either pad-reduced or pad-pigment, with additional reduction and leveling taking place in the single Williams unit. This type of range lends itself to the processing of rayons and similar fabrics, since they are often soaped off in the rope form.*

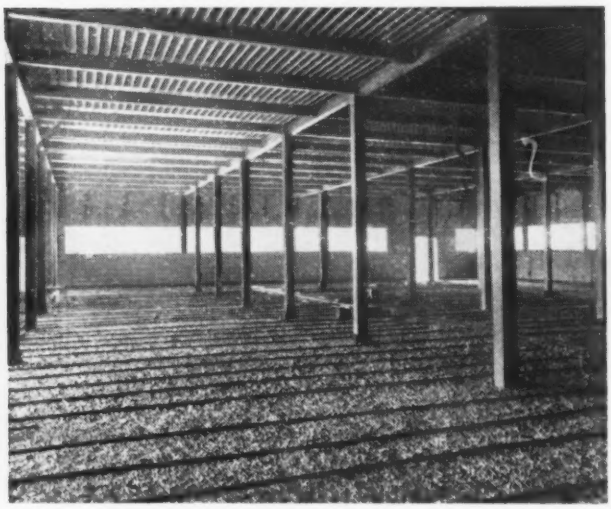
**The side and rear view** *of the Dublin mill while under construction shows how the architect combined modern materials to achieve utility and beauty. The "air-lock" between loading platform and main room of the plant is visible at the left-center of the picture. The boilers and air-conditioning equipment are located at the extreme left of the building.*

# New Hosiery Mill Features SEALED CONSTRUCTION

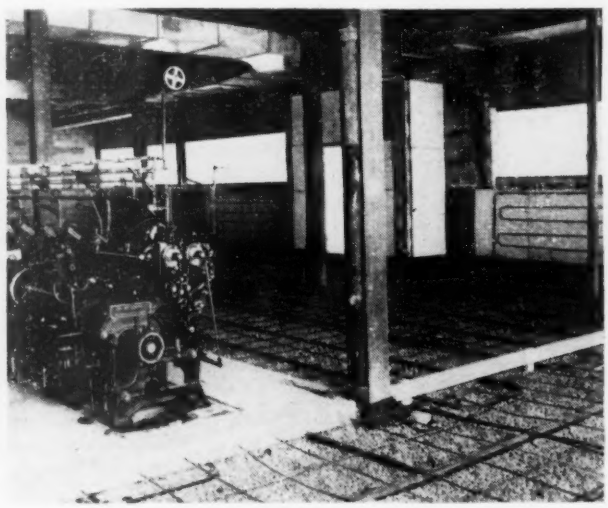
By **WILLIAM A. NEWELL,** *Assistant Editor, TEXTILE WORLD*

THE NEW PLANT of Dublin Hosiery Mills, Inc., Dublin, Pa., is virtually a hermetically sealed unit for full-fashioned hosiery manufacture. Ernest A. Flach, owner and president, conceived it as a plant for nylon processing having operating conditions identical with nylon manufacture and throwing, and having completely uniform temperature within ±1° F. Started in 1946 and now nearing completion, the 192×92-ft. building at present houses seven of a projected 14 Reading full-fashioned hosiery machines.

The plant is constructed for minimum loss of heat and complete uniformity of temperature and humidity throughout the entire length of the 54-ft. 9-in. machines. Heat emanates from radiant-heat coils embedded in the floor and walls, and humidity and



**Radiant heat coils** *were laid on crushed-rock and mounted on the walls on "Insulite" board. Nearly 3 mi. of gas-welded pipes were used. Floor coils are 1 and 1½ in., wall coils ½ in., and supply and return mains 1½ and 2 in. The radiant heating system is divided into two zones—one in the center portion under the knitting machines, and the other in the outside floor area and wall panels. Roof is of Mahon steel deck insulated with 2 in. of cork.*

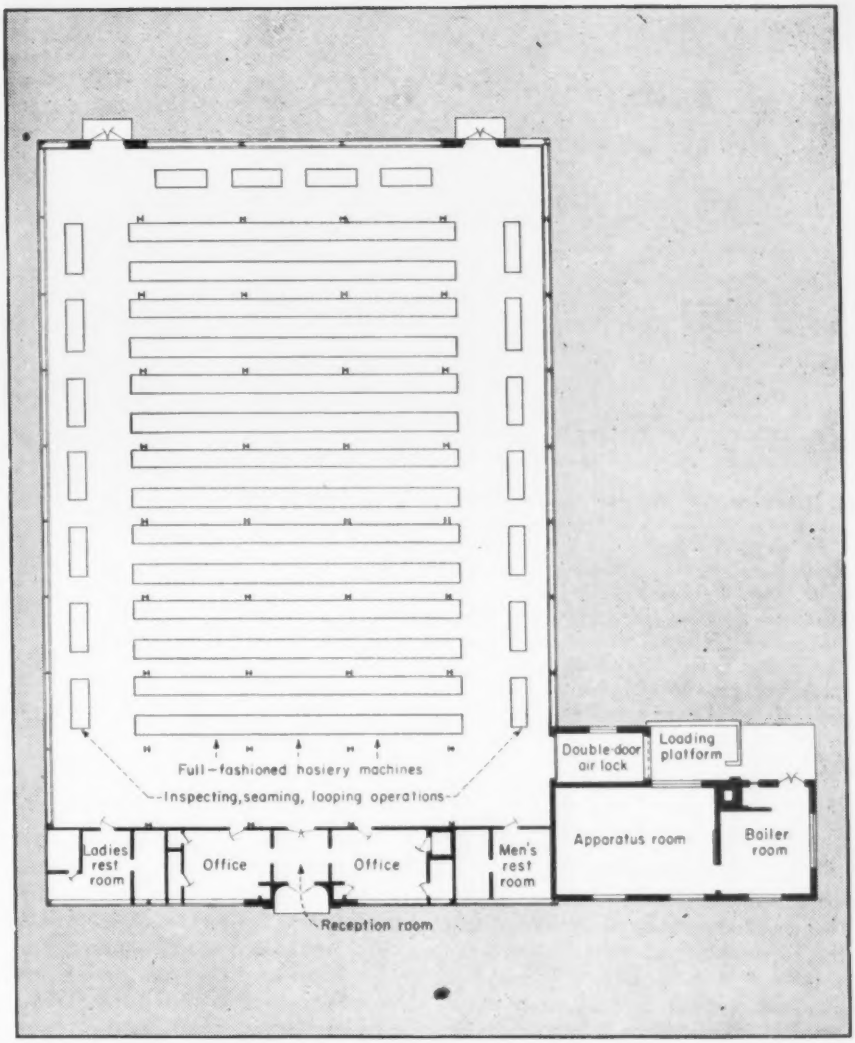


**One of the Reading machines** *was partially assembled before pouring of the floor was completed. Floors are 6-in. reinforced concrete to prevent vibration, and were levelled to within ⅛ in. to insure complete levelness of machines and to facilitate assembly. After-treatment of the floors with Lapidolith, an oxidizing-hardening agent made by L. Sonneborn & Sons Co., prevents powdering and dusting of the concrete surface with wear.*

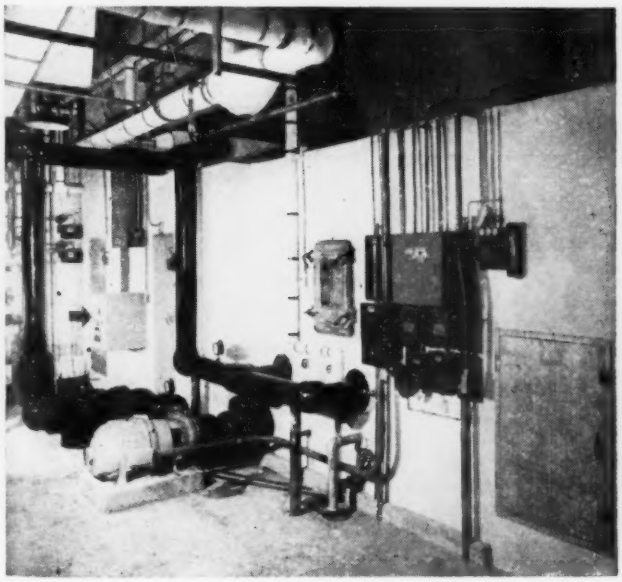
**Brick, glass block** *and corrugated asbestos were used on exterior construction of the Dublin mill. Trim is of stainless steel. Air intakes for the air-conditioning system are on the mill roof.*

***HIGHLIGHTS:*** *Construction and insulation prevent heat loss—Heat from floor uniform over length of machines—Layout centers machines and uses side aisles for finishing operations—Employee comfort assured by air and color conditioning.*

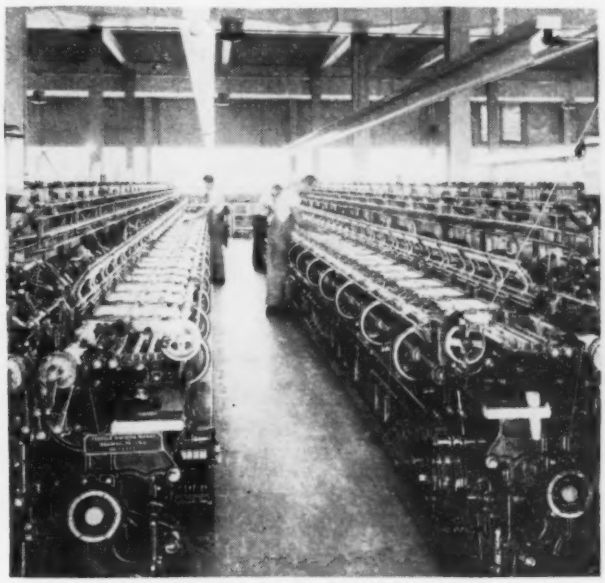
air-conditioning are supplied by an installation of Carrier equipment. The air-conditioning system is required to ventilate the entire building automatically at all times and also to prevent a rise or fall in the indoor temperature of 80° F. and the relative humidity of



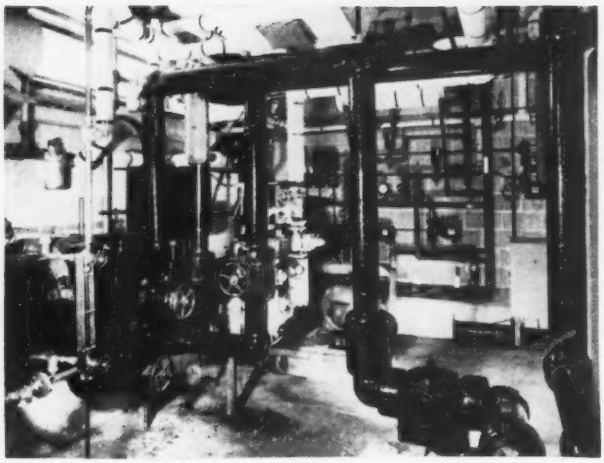

**In contrast to most** *full-fashioned mills which have machines arranged beside a center aisle, the Dublin plant places machines in the center. The 17 ft. space between ends of machines and walls is utilized for finishing operations. A double-door "air-lock" between unloading platform and main room insures minimum effect of outside temperatures on operating conditions.*



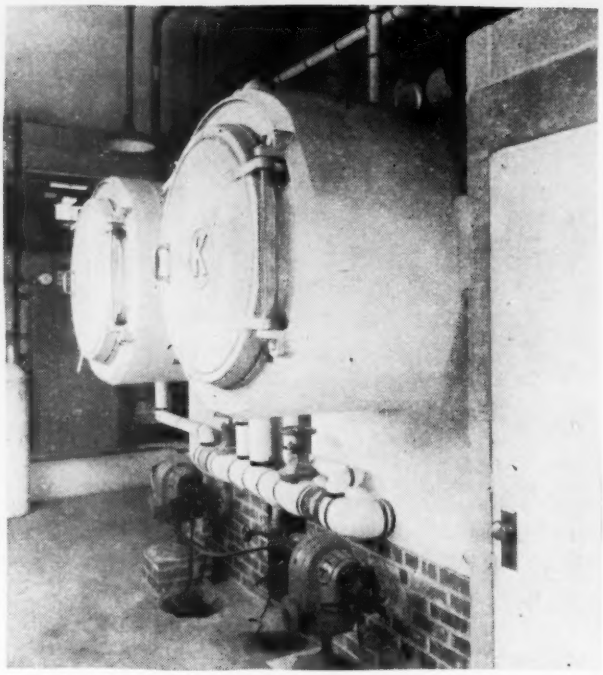
**All returning and fresh air** *passes through the Westinghouse Precipitron and an air filter made by American Air Filter Co. which washes the air by water from over 700 jets. Power control box for the Precipitron is indicated by the arrow.*



**Resilient rubber tile** *covers the floor between the 30-head Reading full-fashioned machines. Fluorescent lights in continuous fixtures shed 30 foot-candles of light on the working surface. Ducts of the Carrier system provide heat, humidity, and air circulation.*



**Hot water for the coils** *is circulated by four Hoffman pumps mounted on the back wall above. Hot water is supplied through a Taco converter with steam at 5 lb. pressure supplied by the boilers. Steam supply to the converter is controlled by a temperature regulator. Return piping bypasses the converter or passes through it if the system calls for heat, and this flow is controlled by two motorized valves installed between bypass and converter and actuated by the control panel. The result is continuous circulation of water through the floor and wall coils at the exact temperature to provide 78° F. in the building regardless of outside temperature. The pump at the pot strainer, lower right foreground, pumps both recirculating water and chilled water from flooded cooler to dehumidifier.*



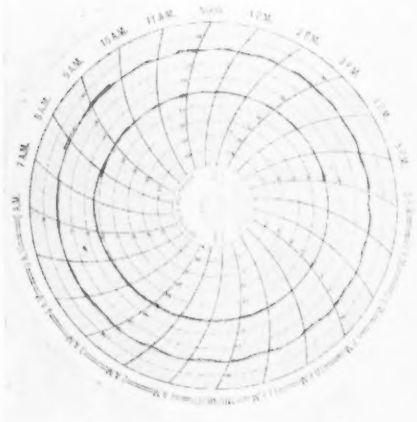
**Each of the two** *Kewanee oil-fired boilers has sufficient capacity for all requirements. Lighting transformers are in the background. Power transformers are outside the building behind the back wall.*

50% from any cause whatsoever.

The construction for minimum heat loss is indicated by an enumeration of the materials employed in a cross-section of the wall from outside to inside: a layer of 4-in. face brick, a layer of 8-in. cinder block, asphalt damp-proofing, 1-in. "Insulite" insulation, radiant-heat coils, and metal lath covered with 1¼ in. of plaster. Heat loss here is insignificant. Above this wall is a layer of glass block topped with a wall of ½-in. Johns-Manville corrugated asbestos board lined on the inside with a layer of blown-on asbestos cement which averages 2¼ in. in thickness. The ceiling insulation is covered with Carey 21-yr. built-up roofing.

For maximum comfort and easing of eye-strain of employees, the plant is color-conditioned by Du Pont. Walls in the main room are two pleasant shades of green. Rest rooms are equipped with lockers and washing facilities. Walls of the women's rest room are painted two pleasant shades of rose, and walls in the men's room are two pastel shades of blue. Office space is air-conditioned at a lower temperature by a separate unit.

Engaged in the project by Dublin Hosiery Mills were George S. Idell of Philadelphia, architect; Charles H. Schwertner & Sons Co., Inc., of Philadelphia, general contractor; Patrick P. Capassere, owner of Radiant Heat Engineering Co., Linwood, Pa., radiant heating contractor and fabricator; Carrier Corp., air-conditioning contractor; Blatchley & Fleurer, power plant designer; and John E. Diem, Philadelphia, electrical contractor.



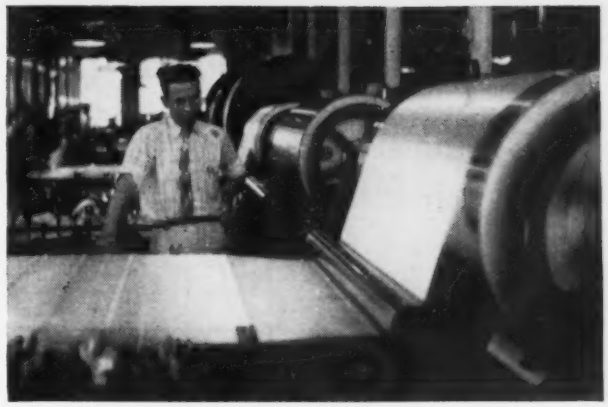
**Complete uniformity** *of temperature and humidity is indicated by this typical chart covering a day's operation at the Dublin mill. Humidity has hardly varied from 50%, and temperature has been maintained within 1° of 80° F.*

**The plant uses these** *pneumatically operated inspection tables. Formerly inspection forms were opened up by leverage action exerted by the foot. In these machines, a gentle pressure on the foot-pedal causes the form to be opened by air pressure built up by the compressor in the background.*

**SIZE-FORMULA TABLE**

| | Water (gal.) | Size (oz.) |
|---|---|---|
| Continuous-filament viscose rayon | 1 | 2 to 3 gelatin |
| Continuous-filament acetate rayon | 1 | 6 gelatin |
| Spun rayon | 1 | 8 to 12 gum |
| Cotton | 1 | 16 starch |

***Comparison of sizing ingredients*** *for various yarns shows the different needs of continuous-filament rayons.*



***Seven-drum slashers*** *are now considered standard for filament rayons although some two (cotton-type), three, five, and nine are also used.*

# "Monofilizing" Main Aim of RAYON SLASHING

***HIGHLIGHTS:*** *Increase in strength not a major factor—Overstretching, a common fault, results largely from rayon swelling when wet—Ease of removal is essential factor of size used.*

**This article is a small abstract from the book *RAYON TECHNOLOGY, Handbook for Mills*, to be published this fall by McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York 18, N. Y.**

LONG BEFORE SLASHERS ran on rayon, the silk weavers coined a saying to the effect that a well-made warp is half woven. Rayon slashing has boosted further the meaning of this thought, for well-slashed continuous-filament viscose-rayon warps top a weaving efficiency of 95%; and most of the few percent remaining unconquered are caused by failures foreign to the warp operation. Such performance is truly remarkable, but it is still by no means considered good enough to cope with the desire to operate at higher speeds.

**FUNCTIONS OF SIZING.** Many treatises have been published on the subject of warp-sizing functions in respect to rayon. The several points generally mentioned have been: (a) to provide additional protection against the stress and abrasive action of the loom, (b) to increase resistance to atmospheric changes, (c) to equalize tension differences developing in warping, (d) to increase the rayon strength, minimizing the breaks accordingly. All these points remain broadly accepted with the emphasis definitely placed on the first; merely "honorable mention" is granted to the others.

The principle reason for warp sizing rayon is to nearly "monofilize" each end, to prevent having any single or small groups of filaments face the loom actions unsupported; for when such a condition exists, it creates a target for the moving parts of the loom, and damage is likely to follow. The fact that 150-den. viscose rayon twisted with 18 turns can be woven efficiently without slashing further attests that grouping of filaments and presentation of a united and single front is essential protection against the loom. The grouping is not to be achieved at the expense of pliability, and sizing ingredients which cause rayon filaments to adhere to each other without unreasonable stiffness deserve to be studied as to their other characteristics.

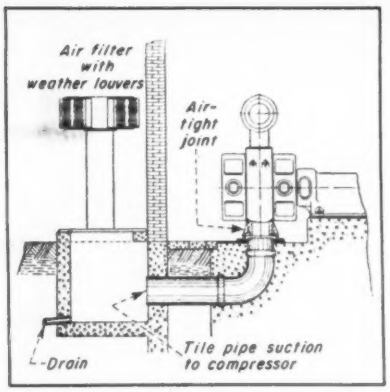
The additional strength imparted by the size is not a major factor. In fact, the greater strength incorporated in modern rayon yarns has not made it less necessary to rely on good slashing for efficient weaving. Moreover, the concentration of the sizing solutions applied onto such yarns cannot be reduced appreciably. It would, therefore, appear that the main function of sizing could be called "monofilizing" without undue stiffening.

Once the warp is woven, the sizing ingredients applied at slashing become a liability, their usefulness totally ceases to exist, and they must be fully removed in scouring.

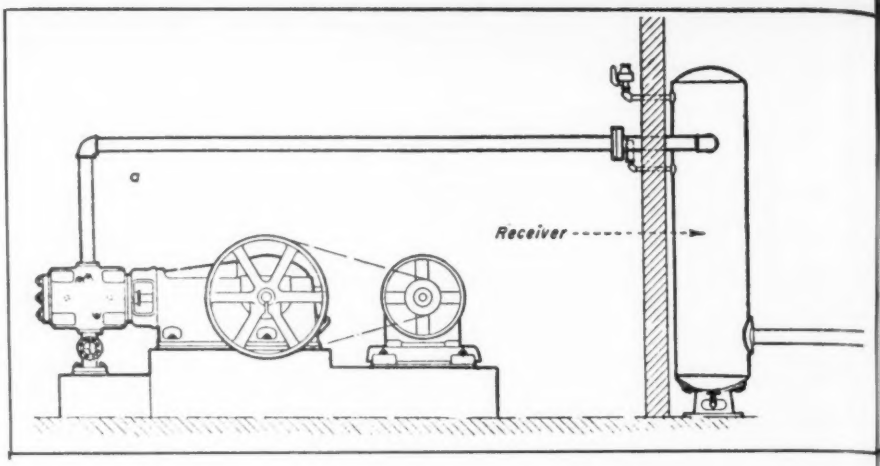
**RAYON REACTIONS.** Upon being made wet, cellulose-base yarns, as found in viscose and acetate rayons, swells cross-section wise, also longitudinally, and loses approximately 45% of its strength. Such characteristics render rayon vulnerable to tension while in the wet state. On the other hand, gains in length readily forced upon viscose rayon while in the wet state may be wholly or partially eradicated upon drying, provided the rayon is not straight-jacketed so as to preclude downward length readjustments. For all practical purposes, the faculty of recovery is limited to viscose rayon and is not present, to any worthwhile extent, in acetate rayon.

In the light of the foregoing, it becomes evident that some gain in warp length is to be expected in the course of slashing. As rayon hits the sizing liquor, it elongates; and the slack developing at that stage must be taken up. Moreover, to keep the ends in order and to prevent rolling among each other, a certain amount of tension must unavoidably be applied. This tension admittedly stretches rayon so that the ultimate gain in warp length is made up to two parts: the slackness caused through the wetting action and the gain realized through the yield of wet rayon under

(*Continued on page 186*)




**The intake opening** *of reciprocating compressors should never be placed alongside a weak building wall, windows, etc. The pulsations immediately surrounding the intake may cause windows to rattle or a weak wall to disintegrate. An effective air filter should be used on the intake.*




**If 450 cu. ft. per min.** *of free air is delivered at a pressure of 100 lb. per sq. in., 27,000 cu. ft. of air per hr. is taken into the compressor. This amount of air at 70% relative humidity and 80° F. temperature carries 29.67 lb. (3.56 gal.) of water vapor. Compressed air in discharge pipe* **a** *above, leaves the compressor at 360° F. temperature. If the discharge*

# COMPRESSED-AIR Systems

***HIGHLIGHTS:*** *Pneumatic tools need 85 to 90 lb. of air to operate efficiently—A 1/16-in. hole will waste 182,000 cu. ft. of air per month, costing $9.10—Shutdowns should be avoided by proper inspection and maintenance.*

COMPRESSED AIR is a major industrial power that offers many advantages. It is safe, flexible in application, easily transmitted, and economical to use. In order to obtain the savings and results expected, however, care must be exercised in selecting, installing, and maintaining the equipment and in laying out the distribution system.

A compressed-air plant consists of one or more compressors, each with the necessary driver, control or regulator, intake-air filter, aftercooler, air receiver, interconnecting piping, and a distribution system to carry the air to the points of use. Before installing a compressed-air system, careful analyses should be made to determine: (1) necessary compressor capacity, (2) number of compressor units, (3) location of these units, (4) control of capacity, and (5) distribution of the air.

The proper capacity of the system depends, of course, upon the demand for compressed air. A study of air-operated devices in a typical plant will show that many of these devices operate almost continuously while others operate infrequently but require a relatively large supply of air when in use. Thus, one factor that must be considered is the amount of air in cubic feet per minute that is actually used. This amount will be considerably less than the amount that would be required if all the uses were needed simultaneously and continuously.

**AIR ACTUALLY USED.** A second factor that must be considered is the amount of air used by a tool under actual operating conditions, as compared to the amount used when the tool is fully loaded.

Many studies of plants using compressed-air show that a relatively small percentage of full-time rated air requirements was actually used. One plant that used 34 portable compressed-air tools used only 15% of the maximum requirements. Another plant that set up its air system to include a number of extra tools utilized only 7.6% of the maximum requirements.

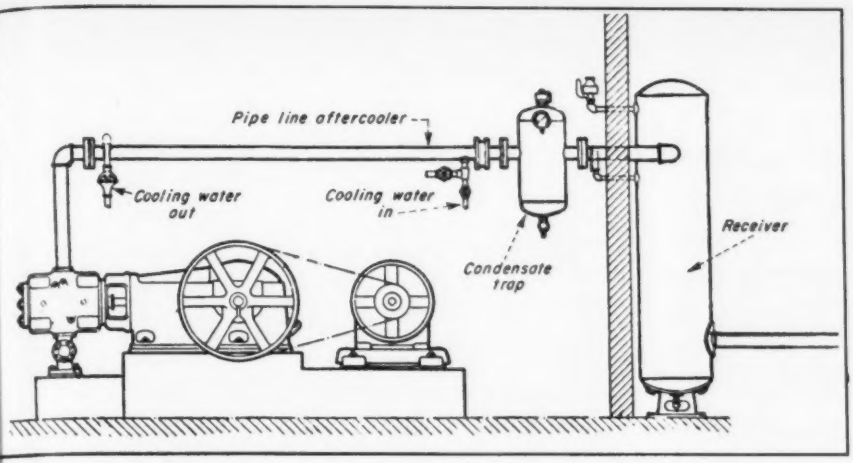
In many installations, some allowance is made for pipe leakage. As a matter of fact, the practice has been

**Cooling-Water Recommendations**
*(Gal. water per 100 cu. ft. of free air)*

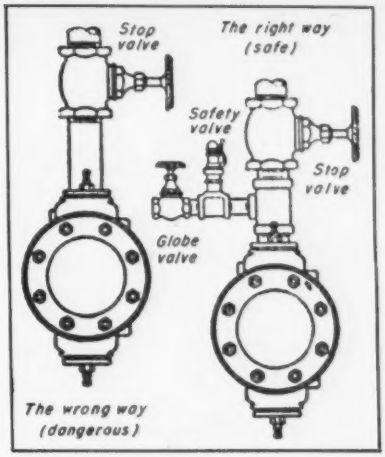
| | |
|---|---|
| Intercooler (separate) | 2.5 to 2.8 |
| Intercooler and jackets (in series) | 2.5 to 2.8 |
| Aftercooler | |
| 80 — 100 lb. (two stage) | 1.25 |
| 80 — 100 lb. (single stage) | 1.8 |
| Two-stage jackets | 0.8 |
| Single-stage jackets | |
| 40 lb. | 0.6 |
| 60 lb. | 0.8 |
| 80 lb. | 1.1 |
| 100 lb. | 1.3 |

***A liberal supply of cooling water*** *for cylinder jackets, cylinder heads, intercoolers, and aftercoolers must be provided. This water supply should always be turned on before the compressor is started. With the amounts of water shown here, the temperature of the air leaving the intercooler and aftercooler should be within 20° and 15° F. respectively of the temperature of the water entering the cooling system.*

Condensed from *Compressed Air Handbook* prepared by Compressed Air and Gas Institute.




*line is not equipped with an aftercooler and condensate trap, the 3.56 gal. of water per hr. enters the air receiver, pipe line, and pneumatic tools that use the air. An aftercooler and condensate trap, shown above, will remove 81% of the water vapor and reduce the air temperature to 80° F, so that there is no further condensation.*




***If more than one compressor** discharges into a single aftercooler or receiver, a shut-off valve is usually placed in each compressor discharge line between the compressor and the aftercooler or receiver. In such an installation, it is a dangerous practice to omit placing a safety valve between the compressor and stop valve. The compressor may be started with the stop valve closed, and pressure may burst the compressor cylinder.*

# s Need Close Attention

to add 10% to the air capacity needed to compensate for leakage in the distribution system. Such a practice should not be tolerated. Electrical, steam, and water lines are tight; and compressed-air lines should be made just as tight. A 10% allowance for leakage is merely a waste of money.

The number of compressors to install in order to obtain the required air capacity should also be determined by the plant's over-all requirements. In most plants, a small amount of air is needed when the plant is not in operation. Usually, a small compressor should be installed to provide this air.

A second factor that should influence the number of compressors is the necessity for taking a compressor out of service when maintenance work is required. The cost of having extra compressors standing by should be compared with the loss in having compressors out of service.

**COMPRESSOR ROOM.** A centrally located compressor room has advantages in unified operation and care, better supervision, and less labor. Fewer compressors may be needed if such a central unit is practicable. However, in some plants, the cost of piping air from a central compressor room to all the points where air is needed may be excessive. In some instances, the economy of operating two compressor rooms should be considered.

There are two general methods of controlling air pressure. In the first, known as speed-and-pressure regulation, the speed of the compressor is varied according to the demand for air. In the second, known as constant-speed regulation, the compressor is operated at a constant speed and the pressure is controlled by an unloading system.

Control of pressure closer than a 5% range between full load and no load is unnecessary. Probably the most economical control method is to have the large compressor units act as the base-load units, adjusting them so that they unload only after the smaller units have been shut down. On week ends and other periods when a very small amount of air is needed, the large units should be shut down and only the necessary small units operated.

The distribution system is one of the most important elements of the compressed-air plant. Any drop in pressure between the compressor and the point of use of the air is complete loss. In planning the distribution system, the following rules should be observed:

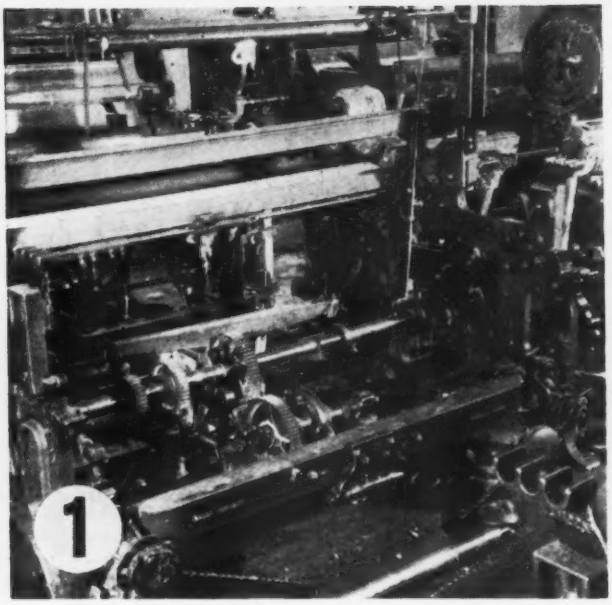
1. Pipe sizes should be large enough so that the pressure drop between the receiver and the point of use will not exceed 10% of the initial pressure.

2. Use a loop system around the plant and within each building. This

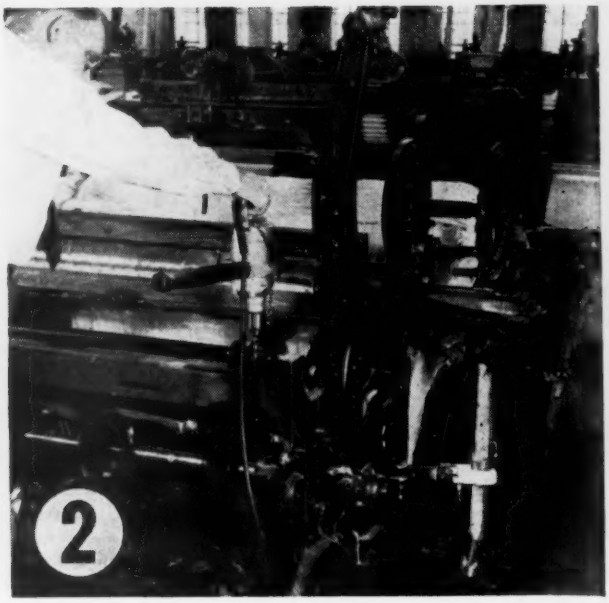
(Continued on page 204)

**Rate of Oil Feed for Compressor Cylinders**

| Cyl. dia. (in.) | Piston displacement per cylinder (cu. ft. per min.) | Swept surface of cylinder (sq. ft. per min.) | Oil feed per cylinder | |
|---|---|---|---|---|
| | | | Drops per min. | Pints per 10 hr. |
| Up to 6 | Up to 65 | Up to 500 | 2 in 3 min. | 0.05 |
| 6 to 8 | 65 to 125 | 500 to 750 | 1 | 0.075 |
| 8 to 10 | 125 to 225 | 750 to 1,100 | 4 in 3 min. | 0.10 |
| 10 to 12 | 225 to 350 | 1,100 to 1,500 | 1 to 2 | 0.112 |
| 12 to 15 | 350 to 600 | 1,500 to 2,000 | 2 to 3 | 0.188 |
| 15 to 18 | 600 to 1,100 | 2,000 to 2,600 | 3 to 4 | 0.262 |
| 18 to 24 | 1,100 to 1,800 | 2,600 to 3,600 | 4 to 5 | 0.338 |



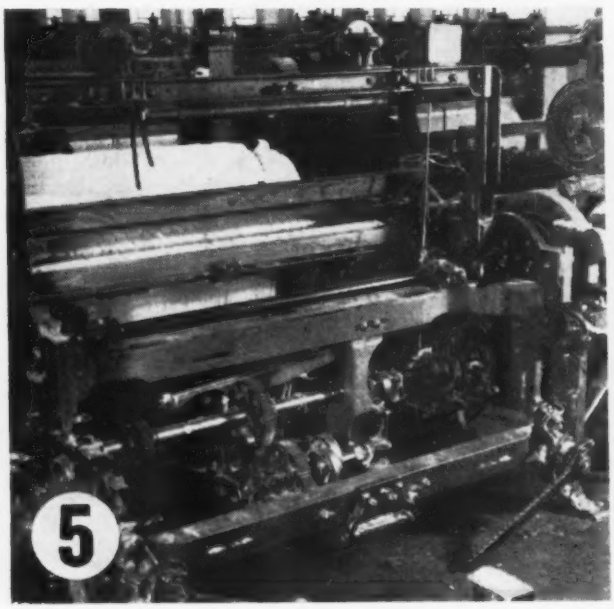
**Spreader installation begins** *at Revolution Cotton Mills with the loom almost completely dismantled. The jack hooks have been disengaged, the harnesses removed, and only the jack stick remains. The warp stop-motion has been cleared away down to the side brackets. The old crankshaft has been taken out and will be replaced by a new one; the loom beam, whiproll, and lease rods have been removed from the loom.*



**Drilling holes for spreaders** *formerly was one of the longest and most fatiguing parts of the operation at Revolution mills. To begin with, the overhauler drilled the holes without the aid of a holding device; and the drilling time under that method amounted approximately to 8 hr. With the holding device, Revolution's foreman of overhauling above demonstrates the drilling of vertical holes for the spreader.*

# New Method Cuts Time to l

**HIGHLIGHTS:** *Heavy drilling of looms sides simplified by Revolution Cotton Mills' improved holding fixture and lever—Spreader and flywheel installation, only a phase of large loom changeover, said to have increased loom speed by 11%—Revolution's own overhauling crew engaged in 1,768-loom program.*



**General view shows the spreader** *completely installed except for the right-hand brace to the middle girt. (Right-hand middle girt is to reader's left, since this view is taken from the back of the loom.)*

**C. F. Phillips,** *superintendent of Revolution, inspects the lining of the left-hand brace to the middle girt. Note the two bearings which support the crank shaft. The loom will operate at approximately 176 p.p.m. when the overhauling is completed.*

**Loomside drilling** *was the heaviest job in the installation of spreaders. Here, the drill holder has been set up (a hook attaches to the pick shaft to hold the fixture). By pulling the lever against the loomside, the operator creates the pressure necessary for drilling the holes. Formerly, this pressure had to be developed by sheer manpower, a time-consuming task in a narrow and awkward work-area.*

**The spreader is lined and level,** *and the whole loom is thoroughly overhauled and reconditioned before starting up.*

EDITOR'S NOTE. The word "spreader" is often understood to mean certain parts made by Hunt Machine Works, Inc., Greenville, S. C. The term "loom braces" is generally applied to those made by Draper Corp., Hopedale, Mass. In the article the terms are used interchangeably.

# to Install LOOM PARTS

ONE OF THE FEATURES of the vast weave-room modernization and changeover program now underway at Revolution Cotton Mills in Greensboro, N. C., is the improved method developed by the mill's overhauling crew in the installation of spreaders or loom braces. A total of 1,768 looms, most of which are 42-in., Model-E Drapers, are involved in the program.

The improved methods worked out by Revolution's overhauling crew has greatly reduced the time required ordinarily in installing spreaders; and the condition of the several hundred looms after all changes were made was said to have enabled the mill to increase the picks per minute by approximately 11% at a greater production efficiency.

All looms are being changed over to the Revolution-developed cloth-winding method [T. W. Sept., p. 292]; new or overhauled parts are added where needed; and spreaders, flywheel drives, and new 1-hp. motors are incorporated into the looms as a part of the general changeover.

As a result of all the changes—and a large part of the improvement in loom operation is attributed to the spreader—Revolution's overhauling program in the large, cotton-flannel weave room was said to have resulted in steadier, speedier, and more economical loom operation. As a result of the flywheel drive and the new motors, which replaced ½-hp. motors, the looms were said to have a more even application of power.

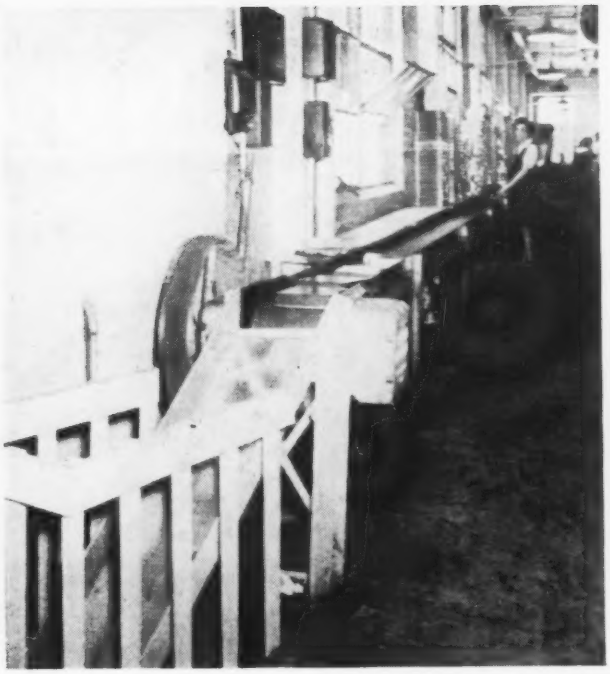
Under the system of overhauling, 16 looms were changed at a time. This meant that 16 looms were taken out of production, stripped of most of their parts, thoroughly overhauled, and rebuilt after minor modification for the new equipment. Insofar as the spreaders were concerned, the procedure outlined and illustrated in the photographic highlights was followed. The procedure was said to be considerably better than the one followed by Revolution when it first began the weave-room changeover.

**THEORY OF "SPREADER."** While various loom braces are made and installed successfully on older models of looms to obtain greater stability, the word "spreader" is derived from the construction industry where any brace extending between two structural members is said to be a spreader.

Actually, therefore, the reinforcement being given the Revolution looms may be called a combination of braces, or a spreader assembly. The main spreader is a cast-iron beam which extends between the loom sides horizontally and is just above the crank shaft. But there are also two vertical braces in the assembly.

The two vertical braces extend from the left-hand and the right-hand middle girts to the horizontal spreader where they are bolted, replacing the single support or arm for the cam-shaft center box. The center box, or bearing, is replaced by the two bearings incorporated on the top surface of the horizontal spreader. These two bearings support the crank shaft, and the change results in an addition of one bearing to the crank-shaft support.

**FLYWHEEL DRIVE.** The flywheel drive installed on Revolution's looms consists of a heavy flywheel pulley which runs on the crank shaft, a cork-insert friction disk which operates against the pulley and is keyed to the crank shaft, and a shipper lever to operate the clutch. Ball thrust bearings are placed between the friction disk and the crank-shaft bearing, and between the shipper-yoke housing and the flywheel pulley. With the clutch closed, the thrust is said to be taken up, thus reducing the wear on the crank shaft.



**1.** ***Trucking and excessive handling*** *of empty hosiery-packing boxes from the box plant to the finishing room in the adjoining building were eliminated by the installation of a 150-ft. belt conveyor. Power for the conveyor is furnished by one 3-hp. motor, and a switch at the end of the conveyor in the finishing room controls the flow of boxes. The conveyor supplies empties to the three finishing tables, Fig. 2, and also serves the metal chute to the stockroom on the floor below.*

**2.** ***One of the three conveyor-belt*** *finishing tables in the finishing department that receive empty boxes from the conveyor in Fig. 1. The boxed hose automatically slide onto the metal chute, which terminates on the sorting table in the stockroom on the floor below, Fig. 3.*

# HANDLING SYSTEM Need Not

***HIGHLIGHTS:*** *Large hosiery mill installs a labor-saving handling system for a little more than $6,000—Waste of floor space and loss of production time decreased.*

**By E. DALTON WHITE**

A

B

**4.** ***The vertical conveyor*** *begins on the first floor and is controlled by a switch mounted at shoulder height of the operator, photo A. The hose in the canvas bags, after the looping and false-seaming operations, are loaded on the conveyor and transported to the third floor, photo B, where the bags are automatically dropped to the horizontal belt conveyor seen overhead to the left.*

**3.** ***The sorting table*** *in the stockroom upon which the three metal chutes from the finishing room on the floor above converge. The filled boxes slide from the chutes to the belt conveyor in the center of the back table.*

# Be Expensive

**5.** ***The horizontal belt conveyor*** *seen in Fig 4B terminates in the inspection department. Here the bagged gray goods are stacked according to style and size until inspection. From the inspection department, the nylon hose are trucked to the stockroom or put into the wooden chute constructed on the outside of the building and shot to the boarding room on the floor below. The outside chute, not shown, saved floor space and eliminated a trucking operation or construction of a conveyor.*

STRIKING EVIDENCE of what mills can accomplish at small cost in the handling of materials on shop-designed and shop-made equipment is seen at Richmond Hosiery Mills, Rossville, Ga. Trucking through departments, pushing from one department to another, and hauling on elevators from one floor to another have been eliminated by a system of chutes, conveyor belts, and a platform conveyor—all of which aided in the conservation of personnel, physical labor, and productive space without a reduction in the working force or wages.

Revision in the flow of materials to production areas by the automatic system enabled the mill to shift non-productive labor to productive jobs, thus making better use of manpower with corresponding higher ratings in job classifications. Bottlenecks and waiting time for movement of materials were replaced by a free and constant flow of work throughout the mill, thereby increasing productive efficiency and reducing cost.

Because of structural design and the necessity for locating different operations in the most adequate space available, the materials-handling system was designed for specific purposes over a period of time. Superintendent A. L. McCall worked with plant engineers in devising special conveyors to meet problems of work transfers.

Most of the handling system was constructed of salvaged material in the mill's shop. The total cost of the system was $6,286.35 plus the cost of construction by the mill force. This total-cost figure includes $4,237.50 for the three conveyor finishing tables, $1,298.85 for the belt conveyor from the box plant to the finishing room in the adjoining building, and $750 for the vertical platform conveyor.

**MAINTENANCE.** The maintenance of the present system is negligible as compared with the former expense of truck repair and maintenance, wear on floors, operation of elevators, extra personnel, and replacement of equipment. Space formerly devoted to trucking alleys and collecting points has been utilized for additional productive equipment.

The problem of trucking gray goods from the knitting room on the third floor to the first floor for looping and false seaming was solved by the construction of a drop chute. Return of the material to the inspection department on the third floor is accomplished by a vertical platform conveyor and a belt conveyor. Only one operator is needed to load the vertical conveyor, and unloading is accomplished automatically by dumping the bags onto the belt conveyor to the inspecting department.

Three metal chutes from the finishing tables converge at the sorting table in the stockroom on the floor below. The pitch is such as to prevent pile-ups at the end of the chutes.

Gratifying results have been obtained from the system, not only in cost savings but also in employee working conditions. Employees have been able to increase their weekly income because of increased production as a result of time saved in stacking stock for movement to another department.

Since all equipment in the system is tailor-made for particular needs, plans are now under consideration to eliminate the bulky handling in the stockroom and shipping department. No saving is anticipated in personnel, but a mechanical conveyor will give relief from physical lifting and trucking, which has been the prime objective in all instances.

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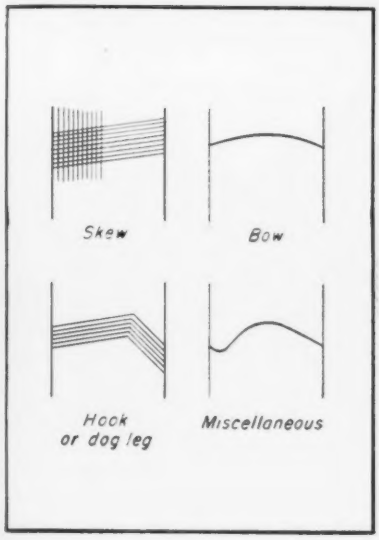



**Fig. 1.** *Of distortion in cloth shown only the top two are susceptible to correction by standard electronic devices.*

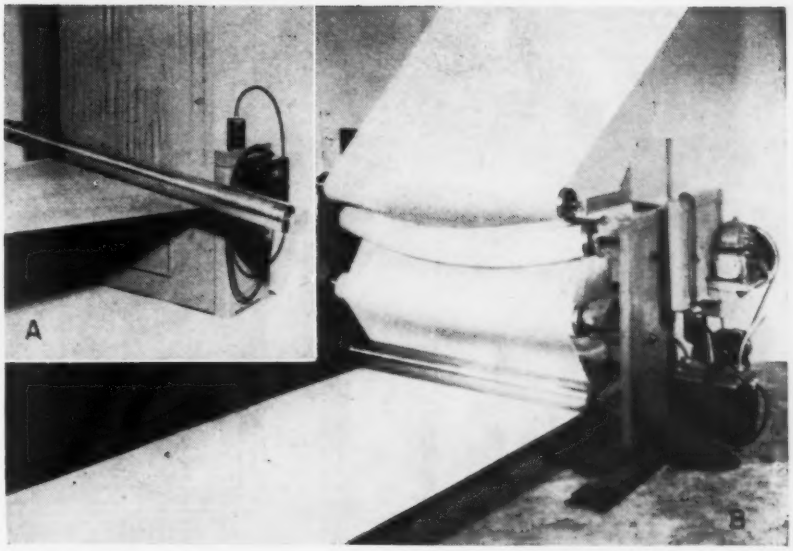



**Fig. 2.** *Split-roll filling straightener (A) and bow eliminator (B) may be adapted to electronic controls.* *Figs. 2 and 3 courtesy of Mount Hope Machinery Co.*

# Electronic STRAIGHTENERS Use Two Different Systems

***HIGHLIGHTS:*** *Right-angle relationship of warp and filling is sometimes lost in finishing—Several methods for correction, the most recent of which is electronic—Can be actuated by transmitted or reflected light depending on fabric—Some fabrics still not susceptible to present electronic devices.*

**By D. ELDRED,** *Control Engineering Div.*
*General Electric Co., Schenectady, N. Y.*

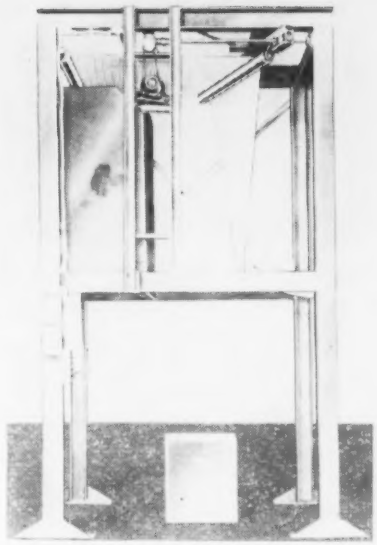


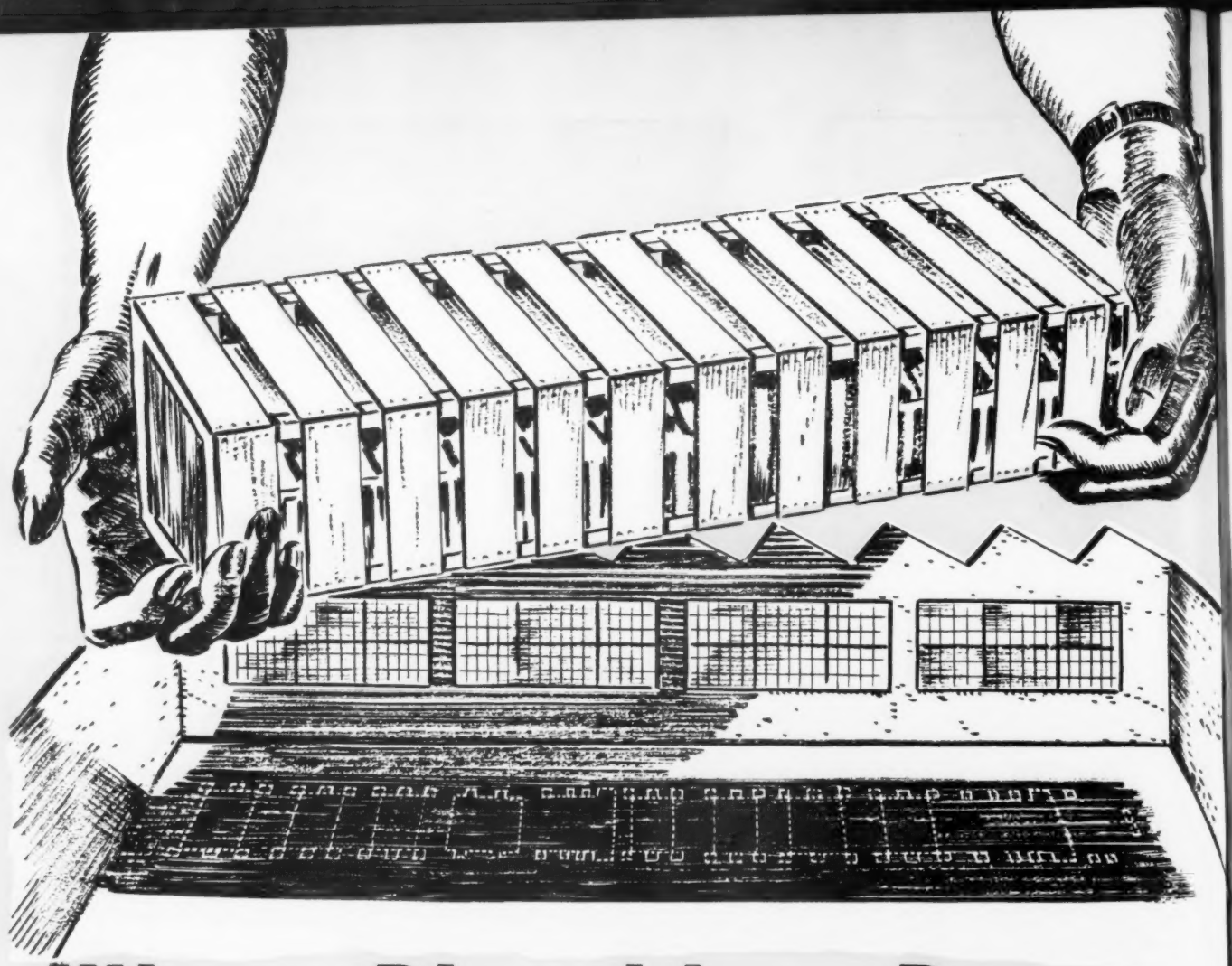
**Fig. 3.** *Unit straightener contains all necessary controls.*

WOVEN TEXTILE MATERIALS when finished should have the filling and the warp yarns at right angles to each other. Often this right-angle relationship is lost during the finishing process. The filling may be skewed, bowed, or otherwise distorted, as indicated in Fig. 1. These distortions are due to the pulling of the material through pot eyes, squeezers, washers, and the general processing of the goods. The results of such imperfections may include the following:

1. Imperfect sheets with high proportion of seconds.
2. Dress goods without ability to retain their shape.
3. Curtains lacking trim appearance.
4. Unsightly printing produced by distorted material.
5. Goods torn at drying tenter as result of high degree of skew.

**CORRECTING METHODS.** Several different methods have been developed to remove these imperfections. The simplest and oldest method is to retard the tenter by hand when forward hooks and bows are observed. An alternative method is to control by hand each side of the cloth as it enters the frame. Both of these methods are not only laborious, but very limited as to accuracy. An improvement on these systems is a device to brake the tenter mechanically or to retard the material, which method again has definite limitations.

Over the years, further improvements have been developed for control time, the differential tenter has been used as a means of controlling skew. With this type of mechanism, one tenter chain is moved with respect to the other through a differential drive. Thus, one selvage is moved with respect to the other. In recent years,



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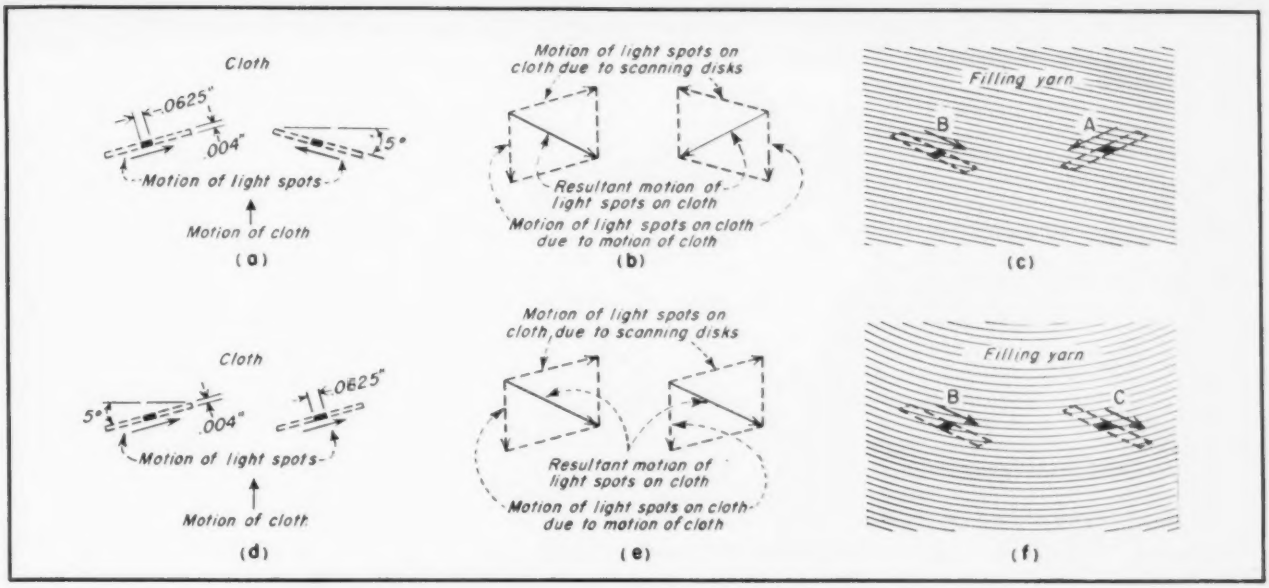


***Fig. 4.*** *Motions of light spots are analyzed for skew (a, b, and c) and for bow (d, e, and f).*

there has been a trend toward use of the multiple canting roll and the split tilting roll (Fig. 2A). With the split tilting roll, the cloth will not run from side to side of the roll as it tilts, and it will not run off the ends of the roll. By making the tilting roll of two sections on the same axis, one section can turn faster than the other, thus permitting the selvage that is behind to travel faster than the selvage that is ahead. Fig. 3 shows a unit filling straightener into which is built the correcting mechanism, electronic control, limit switches, phototubes, etc. With this straightener, it is necessary only to place the apparatus where it is desired, connect power, thread the cloth through, and the control is ready to operate.

To control bow in woven material, two curved rolls are used. These curved rolls tilt in such a direction as to retard or advance the center portion of the material. Fig. 2B shows a bow-correcting mechanism.

All of these mechanical devices lend themselves admirably to automatic control. This control is achieved by the use of phototubes and electronic circuits which finally drive a correcting motor.

The phototubes, by a proper scanning method (viewing of the material), can be used to detect skew, bow, and some simple unsymmetrical cloth distortions. The phototube can do a better and more consistent job of detecting skew than can the human eye. The output of the phototube is coupled to electronic circuits which amplify, indicate the direction of the error, and finally operate a motor which drives the skew-correcting mechanism.

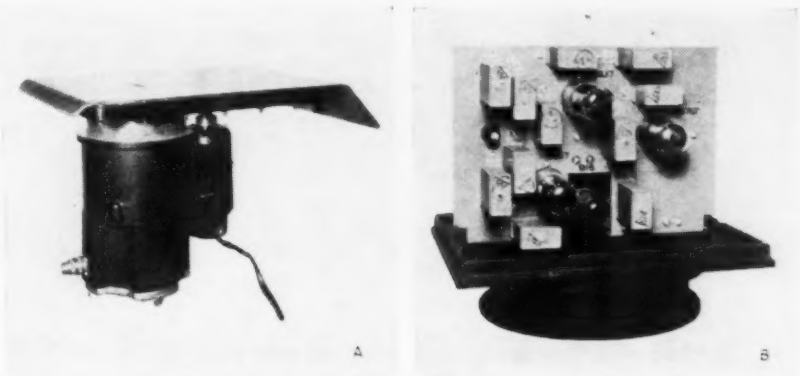


***Fig. 5.*** *Scanning system (A) for transmitted-light filling straightener is a compact unit. It is followed by a phototube pre-amplifier (B).*

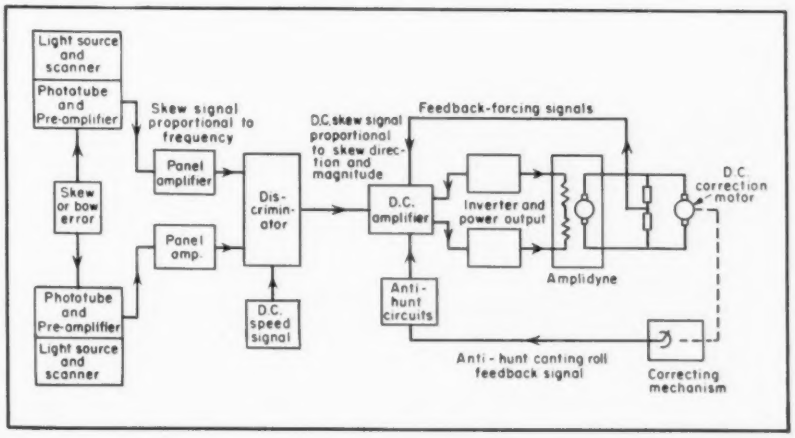


***Fig. 6.*** *Block diagram shows units which comprise the transmitted-light straightener.*

**TRANSMITTED-LIGHT STRAIGHTENER.** The first transmitted-light filling straightener (see AIEE—"Photoelectric Weft Straighteners," by A. P. Mansfield and C. W. LaPierre, General Electric Co.) was developed about 10 yr. ago. This control has been redesigned, both mechanically and electronically, to keep maintenance and servicing to a minimum. Skew and bow detection are obtained by scanning the cloth (Fig. 4, a to f) with a small spot of light. The relative motion of the cloth, the spot of light, and the angle of skew determine the number of pulsations (frequency) of light seen by the phototube, which is

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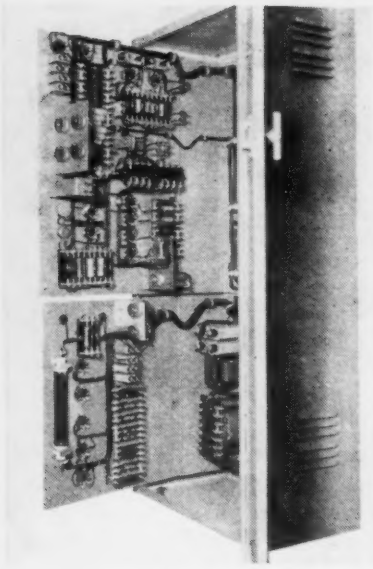

***Fig. 7.*** *Control box for transmitted-light appliance shows accessibility of units.*

below the cloth. Thus, the frequency of the phototube output is a measure of skew (or bow) magnitude. By using two scanning heads and corresponding phototubes, the sense or direction of the skew can be determined.

The scanning system, Fig. 5A, consists of a standard pre-focus lamp, a simple condensing lens, a cylindrical lens, and a slotted disk. The disk, which has 16 slots, is driven by a selsyn motor at a speed proportional to the cloth speed. The cylindrical lens forms, on the cloth, an image 4 mils wide and 2 in. long. The slots in the disk are ⅛ in. in width. With the selsyn rotating the disk, a light spot sweeps across the cloth. This light spot, interrupted by the filling-yarn motion, produces a light frequency on the phototube which is proportional to skew.

As the signal level from the phototube is very low, it is necessary to amplify it about 20,000 times. This amplification is obtained at the phototube by a three-tube pre-amplifier (Fig. 5B). With two pre-amplifiers, the output frequency is proportional to skew or bow magnitude and direction. When skew occurs in the cloth, one pre-amplifier output frequency is higher and the other pre-amplifier is lower. This frequency ratio is coupled to the control panel through a cathode follower circuit (Fig. 6). The signal is again amplified and connected to a discriminator, which converts the frequency ratio to a d.c. signal proportional to the error magnitude and direction. This d.c. signal is again amplified and connected to an inverter circuit which is coupled to the control fields of an amplidyne. The output circuit of the amplidyne is connected to the motor which drives the correcting mechanism. Several feed-back and anti-hunt signals are obtained from the output of the amplidyne and are reinserted in the d.c. amplifier to improve response.

As with most automatic controls, there is a hunting or stability problem with straighteners. With this control, the scanner and phototube preamplifier are placed in the tenter where the cloth is tight. With a tilting roll for correction at the entry end of the tenter, the distance between the point of correction and point of skew detection is 10 to 20 ft. This distance results in a long transportation lag; that is, it may be several seconds before a correction is felt by the error-detecting mechanism (phototubes). To compensate for this lag, a signal is coupled from a potentiometer which is mechanically driven by the canting roll. This anti-hunt signal has the opposite direction from the error signal. By the proper combination of the anti-hunt and skew signals, the canting roll will move to such position so as just to remove the skew and no more. When a new error comes along, the roll will again re-position to the proper point.

A new control panel has been designed to make maintenance as easy as possible. As all the parts are accessible (Fig. 7), it is possible to service the control in a short time. Precabling and resistor-board assembly have been used whenever possible. There are only two controls to be adjusted on the front of the panel. Even the inexperienced operator can soon learn to make whatever adjustments are necessary in operation.

**SIMPLIFIED STRAIGHTENER.** For some time, tests have been made with phototubes and cloth on skewing frames in order to find a simpler means of detecting skew or bow. A control is needed which is not so accurate as the transmitted-light straightener, but which may nevertheless be used to improve the quality of certain types of cloth.

It has been found that by lighting the surface of the cloth with parallel rays of light at a low angle, a measure of skew or bow can be obtained. As indicated in Fig. 8, the phototubes and lamps must be placed at the proper scanning angle. The filling threads act as small cylinders, which reflect light to the phototubes. This reflection, a measure of skew, is better from open-weave goods, such as curtains or gauze, than from fine, compact material. With gauze, where the weave may be very irregular, the phototubes tend to average the error and the control gives an average correction. This type of control, although simpler, has certain limitations. These are:

1. Correct operation upset by stray light striking the phototube.
2. Low percentage error signal, about 1% per 1° of skew.
3. Necessity of rebalancing the control from time to time.

The block diagram (Fig. 9) indicates how the control operates. Two phototubes are arranged at the edge of the cloth, each receiving the same amount of light when the filling yarn is perpendicular to the warp. When a skew is present, more light falls on one phototube than the other. This

(Continued on page 200)

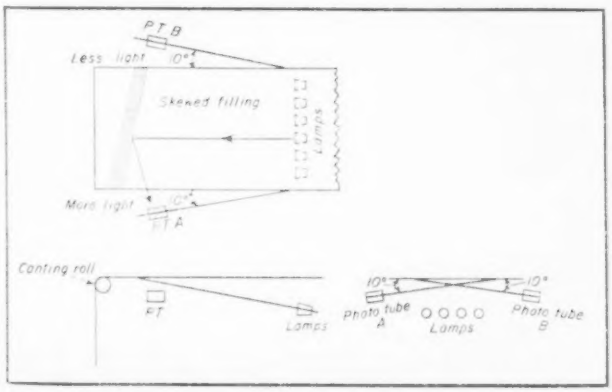


***Fig. 8.*** *Schematic drawing shows elements of reflected-light scanning system.*

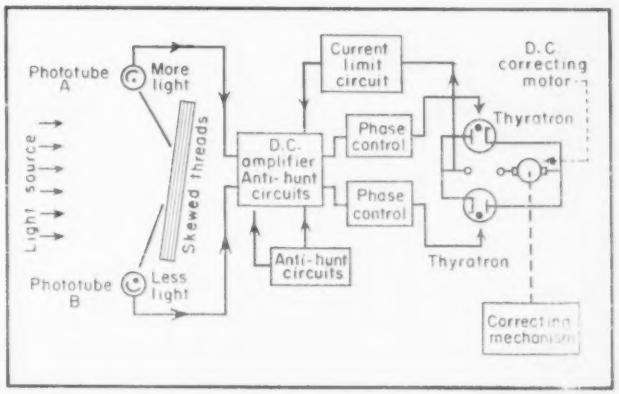


***Fig. 9.*** *Block diagram shows units which comprise the reflected-light filling straightener.*

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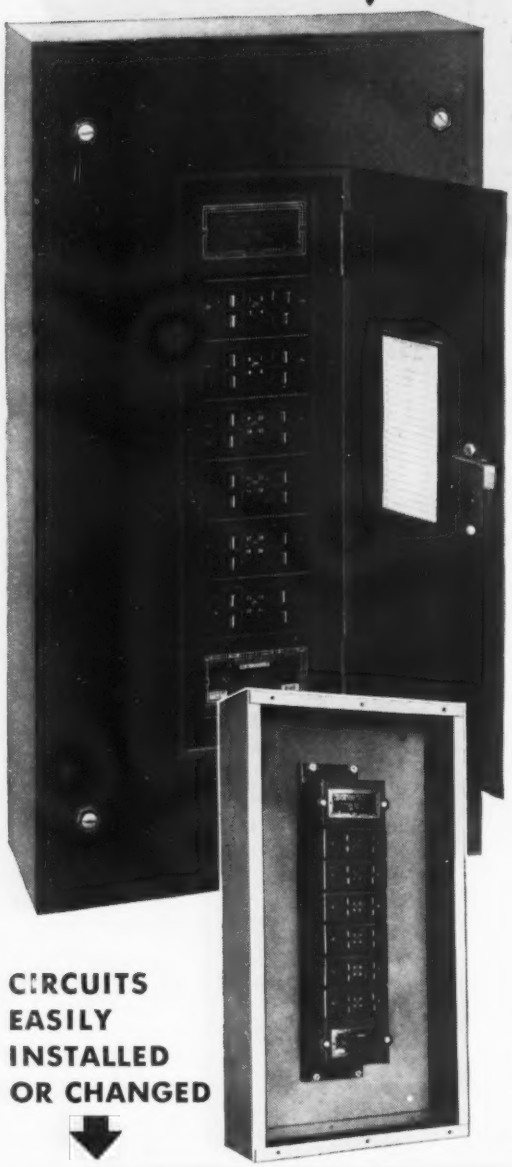

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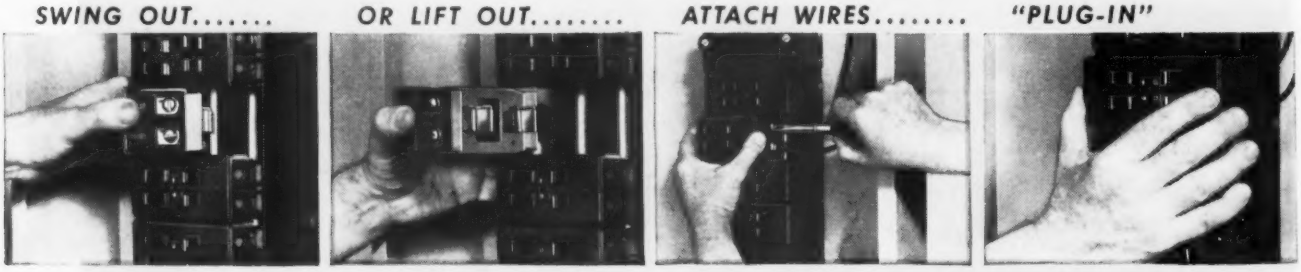

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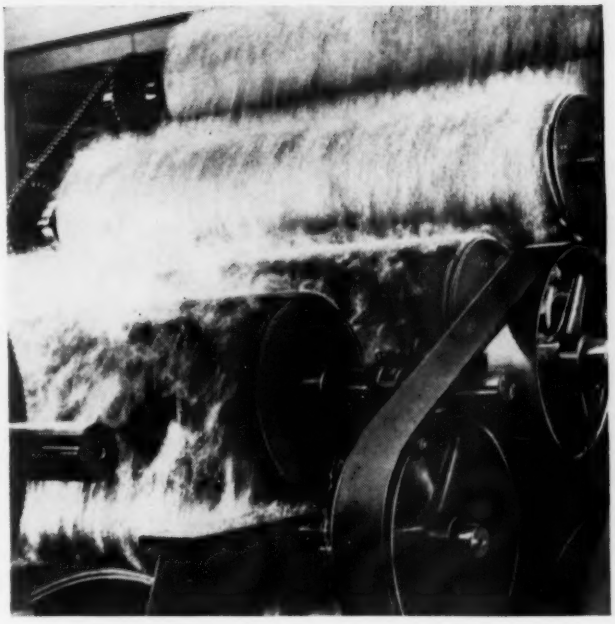
SQUARE D CANADA, LTD., TORONTO, ONTARIO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.



***Surface speeds** through the card should be increased gradually so there will be no abrupt changes to cause fiber breakage.*

***Back drafts** in all gilling processes should be avoided to prevent rayon from curling around the gill pins.*

# Rayon Staple Spins Well On WORSTED SYSTEM

***HIGHLIGHTS:** Rayon staple carding similar to wool—Tendency to pack causes difficulty in gilling—New-type comb circles used—Avoid excess pressure, twist, bobbin tension in spinning.*

IN PROCESSING RAYON STAPLE on the worsted system, either standard Bradford-length staple or the newer varied-length staple, which approximates the range of lengths found in worsted top, may be used. Basic considerations will govern all processing and modifications. Mainly, these are the tendency of rayon staple to pack down and the lower cohesion of rayon as compared to wool.

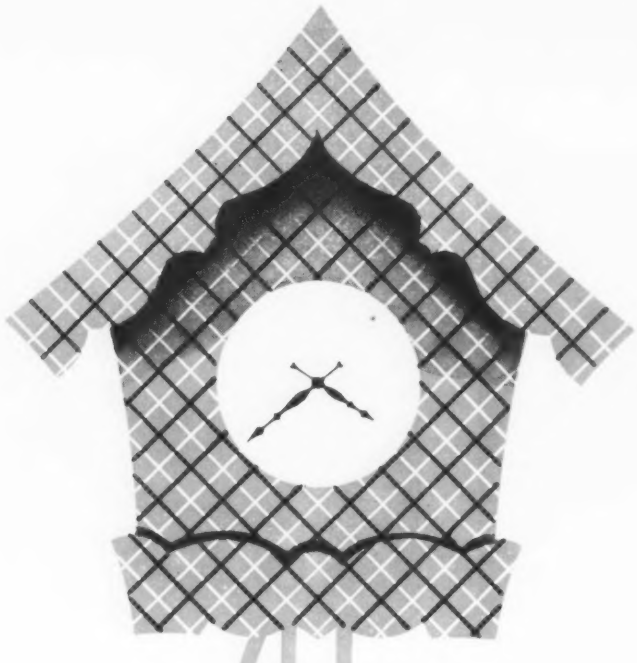
The preparation of rayon staple for processing on the worsted system differs from preparation for the woolen system in that the blending of rayon and wool does not occur until the drawing process. However, if acetate and viscose or any other combination of synthetic fibers is to be blended, this blending should be done at the picker. When blended thus, the viscose tends to subdue the static-producing characteristics of the other fibers.

**LUBRICATION.** It is well to understand that there is a difference between the "finish" on a rayon fiber applied by the manufacturer and lubricants added in the worsted process. Research is in progress toward developing a "lubricating finish" for rayon staple that will eliminate addition of other lubricants, but meanwhile the worsted mill must apply a lubricant to reduce fiber breakage. This lubricant is a straight oil, not an emulsion, as the water in an emulsion causes weakening of the rayon fiber. Use of 1½ to 3% of oil on the weight of the fiber is suitable. The larger amounts are used on dull-luster fiber, and the percent used varies directly with the fiber length. The oil used must be of low viscosity and be free from mineral acids. It should be applied by atomizing equipment, and oiled stock should be permitted to stand a reasonable length of time, as overnight, to allow thorough dispersion through the fiber mass. Tints are available for use when desired, but caution must be exercised to obtain tints that have no affinity for wool.

**OPENING.** Rayon staple fiber does not require as much opening as wool, and conventional openers should be modified to lessen the severity of their action and prevent undue fiber breakage. The cock-spur type of pin is dispensed with, and the cylinder is covered with straight, smooth pins that project perpendicularly from the cylinder. The grid section under the main cylinder is also eliminated, and re-

### From New Rayon Book

**The material presented in this article is condensed from a chapter of the forthcoming book *RAYON TECHNOLOGY, Handbook for Mills*, to be published this fall by McGraw-Hill Book Co., Inc. The book is based on the extremely complete research on rayon processing carried out by the Textile Research Dept. of American Viscose Corp., Marcus Hook, Pa., since its establishment in January, 1939. It will contain sections on processing rayon staple on the cotton, woolen, and worsted systems, as well as rayon weaving, knitting, dyeing, and finishing.**



# MAKE FABRICS IN TUNE WITH THE TIMES

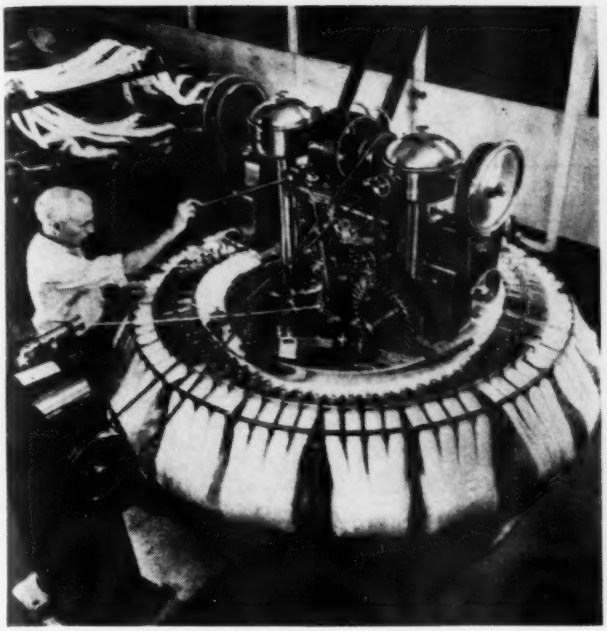
WITH BEAUTIFUL, MAGICALLY PRACTICAL

Firestone *Velon**

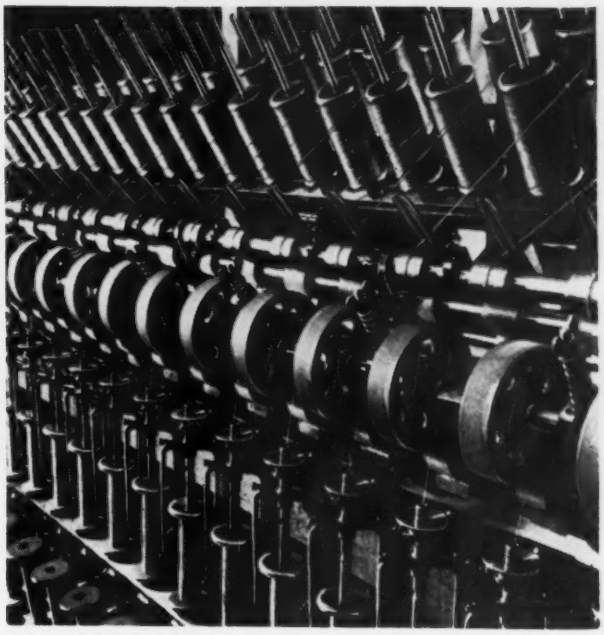
*Velon fibre* gives you magic selling-power . . . because for the first time "impractical" colors become practical, woven designs more beautiful . . . because *Velon* is non-absorbent, can be cleaned so quickly and completely . . . because the wonderful fabrics you can make from *Velon* defy dirt, staining, shrinkage, fading, wear and age. *Velon* will expand your production. Write Firestone, Akron, for free full-color booklet on *Velon*, and for technical assistance.

*TRADE MARK

BEST TODAY STILL BETTER TOMORROW



***Tendency of rayon** to pack can be resisted by the use of longer pins. Tension should be relaxed between the funnel and coiler.*



***In drawing and spinning staple rayon** proceed as for wool but avoid excessive roller pressure, twist, and bobbin tension.*

placed by a smooth sheet-metal cover.

**CARDING.** The carding of staple rayon presents few new problems, and it may be favorably compared to wool carding. It is practical to use a single-cylinder card with breast attached; this would not be possible if fine wool were used. The specifications, speeds, and settings presented in the accompanying table have been used successfully on rayon staple of any denier or length. Surface speeds through the card should be increased gradually so that there is no abrupt change which would cause breakage. To help accomplish this, the card recommended has two lickerins and a top divider.

Since rayon needs less carding, the workers and strippers may be set off from the cylinder. This allows the weight fed to be increased. Since rayon has less oil and short fibers, the fancy should be raised a trifle.

Calender rolls should be set so that there is no tension between the doffer and calender rolls. Drafting of the web from the doffer should not be attempted with rayon.

**GILLING.** Rayon entering the gilling process has had up to 3% of oil applied. Should it be found that the wool requires further oiling, the wool should be gilled once and lubricant applied separately. This will prevent excessive oiling of the rayon and inhibit packing-down and setting of the twist while the blend is in the form of top, especially if the top is stored.

If a balling-head gill box is used, the rayon should be fed into the center

(Continued on page 196)

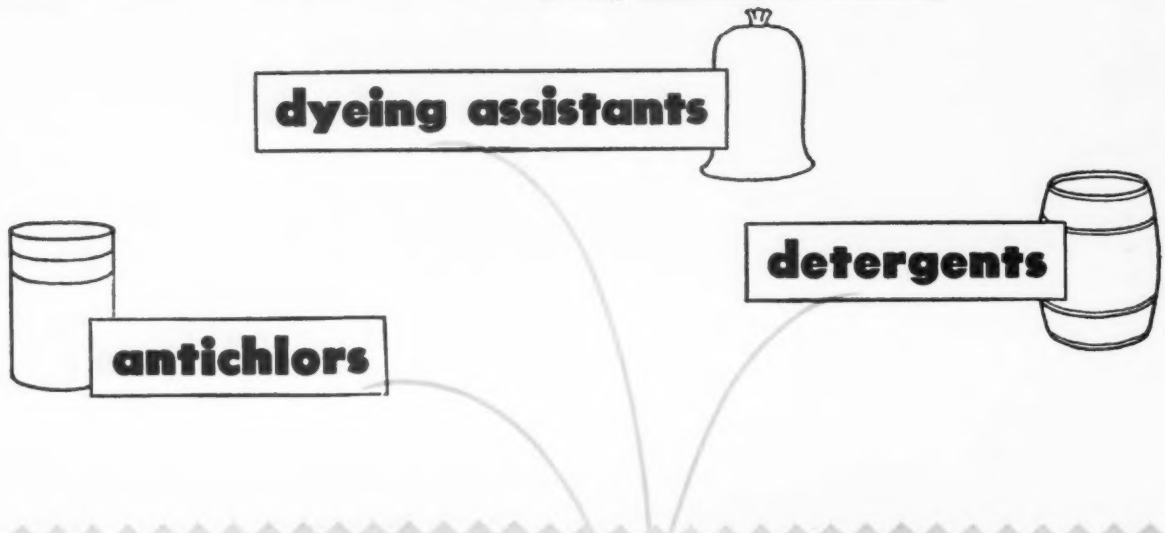
**DETAILS OF WORSTED CARD**

**48-in. Davis & Furber**
**Average production (100% Rayon) 45 lb. per hr.**

| | Dia. (in.) | Circum. on Wire (in.) | Wire Number | Counts and Crowns | Points per sq. in. | Gage | One Typical Operating Set-up | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Rpm | In. per min. |
| Feed Rolls | 4 | 14.12 | Garnetted | | No. 1 - 4 | 26 | 1.7 | 24.0 |
| 1st Lickerin | 30 | 95.5 | Garnetted | | 2 Lt. - 8 | 26 | 8.5 | 811.7 |
| 1st Top Divider | 20 | 63.75 | Garnetted | | 3 St. - 10 | 26 | 3.5 | 223.18 |
| 2nd Lickerin | 26 | 84. | 24/28 | 65/7 | 182 | 26 | 21.5 | 1806. |
| Breast | 36 | 115.25 | 28/32 | 90/9 | 324 | 26 | 34. | 3918.5 |
| 1st Worker | 10 | 34.1 | 28/32 | 90/9 | 324 | 24 | 9. | 306.9 |
| Stripper | 4 | 14.9 | 28/32 | 85/9 | 306 | 26 | 70. | 1040.3 |
| 2nd Worker | 10 | 34.1 | 28/32 | 90/9 | 324 | 24 | 7.5 | 255. |
| Stripper | 4 | 14.9 | 28/32 | 85/9 | 306 | 26 | 70. | 1040.3 |
| Angle Stripper | 8 | 27.5 | 30/34 | 85/9 | 306 | 26 | 347.2 | 9548. |
| Cylinder | 54 | 172. | 30/34 | 105/10 | 420 | --- | 80. | 13760. |
| 3rd Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 26 | 8.8 | 300. |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| 4th Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 26 | 8. | 272.8 |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| 5th Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 28 | 7.9 | 269.4 |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| 6th Worker | 10 | 34.1 | 30/34 | 105/10 | 420 | 28 | 9. | 306.9 |
| Stripper | 4 | 14.9 | 30/34 | 100/10 | 400 | 26 | 262.5 | 3911.2 |
| Fancy | 12 | 44.8 | 30 | 45/8 | 144 | --- | 430.5 | 19286. |
| Doffer | 40 | 128. | 31/35 | 115/11 | 506 | 26 | Varies with production | |
| Doffer Comb | --- | --- | --- | --- | --- | 26 | 767 strokes | |

***Staple rayon** of any worsted-type denier or length has been processed successfully on a card having these specifications, speeds, and settings.*

# ONE SOURCE for dependable




# SPECIFY "GENERAL CHEMICAL"

Color—finish—production efficiency—these are largely dependent upon the quality, purity and uniformity of the textile chemicals you use. For certainty in your selection of basic chemicals . . . specify "General Chemical."

General Chemical's "know-how" as a producer of industrial chemicals, plus its long experience in serving the textile field, assures detergents, acids, antichlors, peroxide-stabilizing agents and dyeing assistants of the utmost dependability.

## GENERAL CHEMICAL COMPANY

**40 Rector Street, New York 6, N. Y.**

*Sales and Technical Service Offices:* Albany • Atlanta Baltimore • Birmingham • Boston • Bridgeport • Buffalo Charlotte • Chicago • Cleveland • Denver • Detroit • Houston Kansas City • Los Angeles • Minneapolis • New York Philadelphia • Pittsburgh • Providence • San Francisco Seattle • St. Louis • Wenatchee • Yakima (Wash.)

In Wisconsin: General Chemical Wisconsin Corp., Milwaukee, Wis.

**In Canada: The Nichols Chemical Company, Limited**
**Montreal • Toronto • Vancouver**

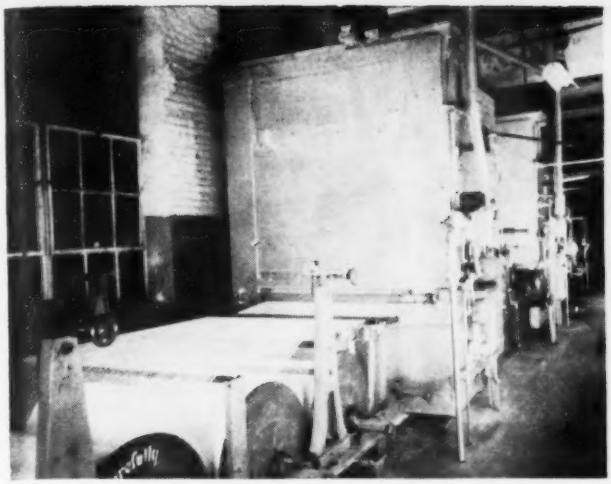
### Select Your Basic Textile Chemicals From These General Chemical Products

- Aqua Ammonia
- Acetic Acid
- Hydrofluoric Acid
- Muriatic Acid
- Sulfuric Acid
- Epsom Salt
- Glauber's Salt
- Sodium Bifluoride
- Sodium Bisulfite, Anhydrous
- Sodium Hyposulfite
- Sodium Metasilicate
- Sodium Silicate
- Disodium Phosphate, Anhydrous
- Tetrasodium Pyrophosphate
- Trisodium Phosphate
- Sodium Sulfide
- Oxalic Acid
- Chrome Alum
- Ferric Sulfate *(Iron Copperas Nitrate)*
- Sodium Sulfite, Anhydrous
- Nitre Cake *(Sodium Bisulfate)*
- Nitric Acid
- Mixed Acid
- Aluminum Sulfate
- Lead Acetate
- Aluminum Chloride Solution

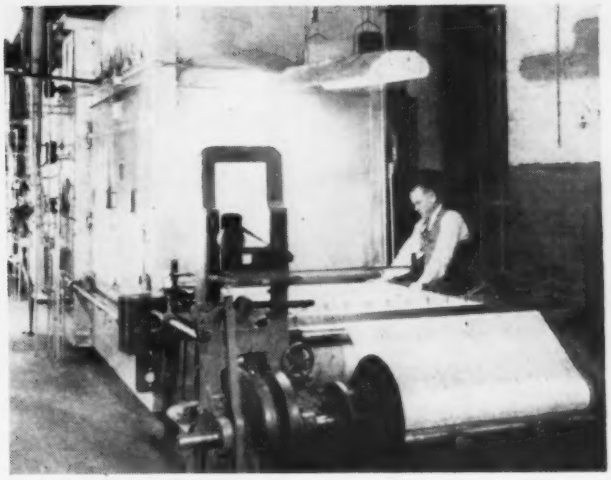
BASIC CHEMICALS

GENERAL CHEMICAL COMPANY

FOR AMERICAN INDUSTRY



**Creeled yarn** *is wet, therefore it enters preheat chamber in the foreground before being slashed and dried.*



**Delivery end** *of the new hot-air slasher is being inspected by H. S. Black, who is in charge of the slasher room.*

# New HOT-AIR SLASHER Installed at Avondale Mills

***HIGHLIGHTS:*** *Yarn dries in strands, not in a sheet—Combustion gas heats yarn directly—Either temperature or speed can be held constant.*

**By W. E. WILLIAMS**
*Supt., Birmingham Plant, Avondale Mills*

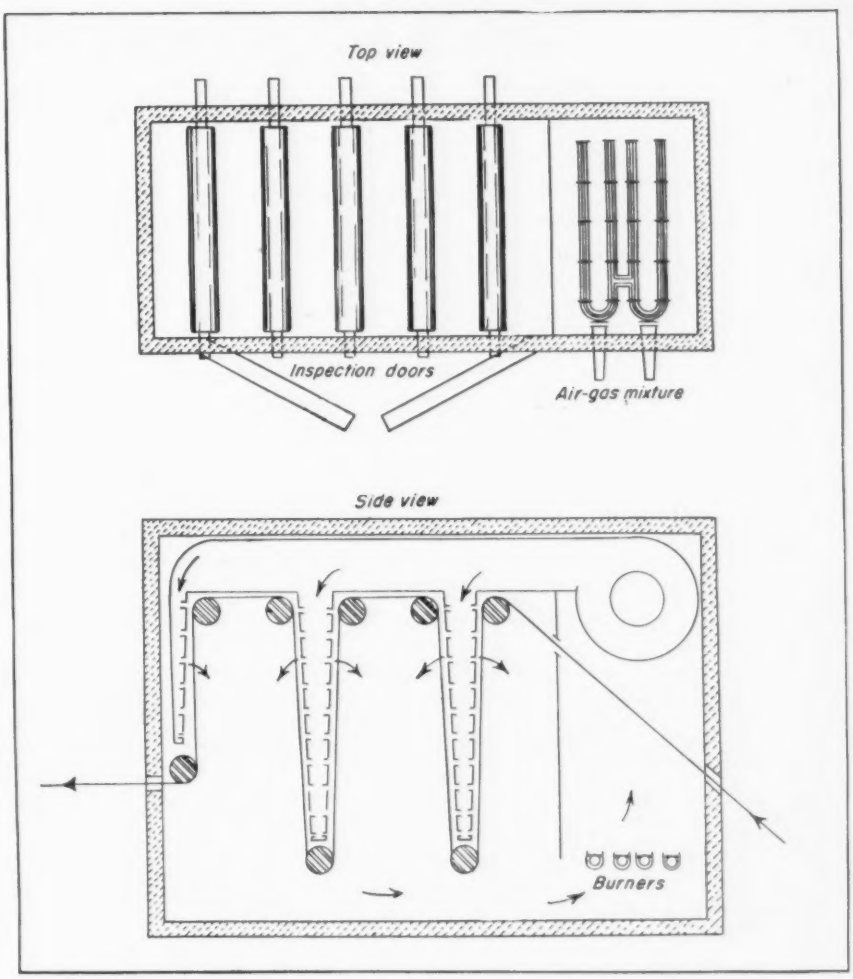
THREE distinct advantages have resulted from the hot-air slasher recently installed in the Birmingham plant of Avondale Mills; increased production, better quality, lower costs.

The equipment was installed by the McConnell Sales & Engineering Corp. after the company had made experiments and investigations over a period of several years. The present design is a result of this experimental work, and the performance of the machine has shown considerable promise.

The heating chamber, or oven, is engineered to fit between the size box and the gudgeons of the loom beam so that the finished machine takes up no more floor space than the conventional slasher; the oven simply substitutes for the cylinders.

A typical construction for this mill is a loom beam with 4,200 ends, but more or less can be run without any difficulty. Yarn run ordinarily is 18s,

(Continued on page 190)




**Arrows in the side view** *of the gas-fired dryer show the flow of the hot gases.*

PALLET STACKING MOTO-TRUC

# DEPENDABLE POWER

## EXIDE-IRONCLAD POWER AND BATTERY ELECTRIC TRUCKS

### They're saving time and cutting costs on materials handling jobs like yours

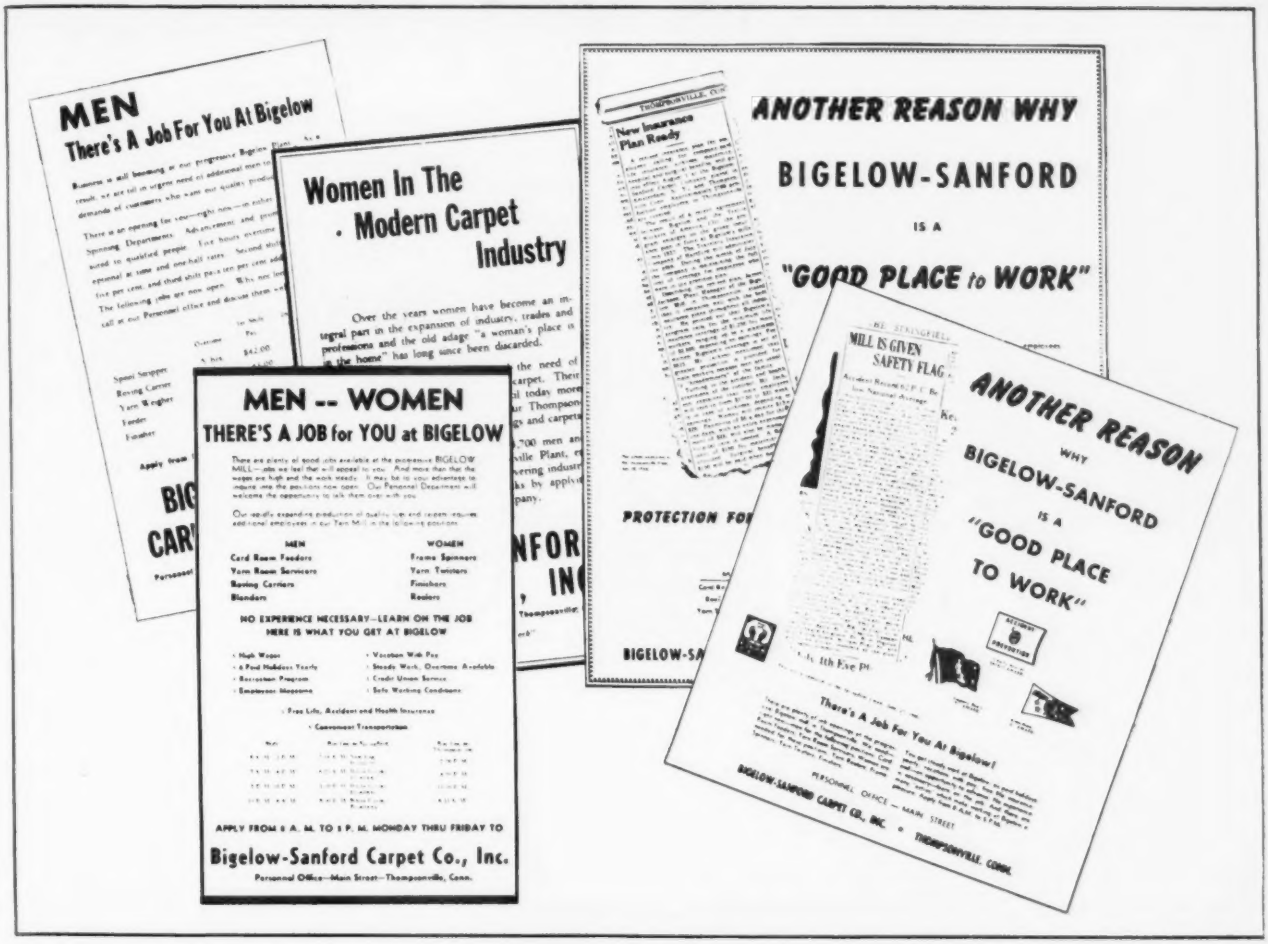
More and more companies, with operating conditions that closely parallel yours, have discovered the way to faster, safer and more economical handling of materials. They have given the job of lifting, hauling and stacking to the efficient battery electric truck and equally efficient Exide-Ironclad Batteries.

The high electrical efficiency of Exide-Ironclad Batteries is due largely to the unique construction of the positive plates. Each of these plates consists of a series of slotted, hollow tubes which contain the active material. So fine are these slots that, while they permit easy access of the electrolyte, they prevent the active material from readily washing out. Not only does this add to life of plates . . . and battery . . . it also provides higher power ability and capacity, assuring dependable, day long performance with maximum safety and minimum maintenance.

Write us for a FREE copy of Exide-Ironclad Topics, which contains "Case Studies" of materials handling problems. It tells how to cut handling costs up to 50% . . . covers latest developments in handling materials from receiving to shipping.

THE ELECTRIC STORAGE BATTERY COMPANY
Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

PALLET STACKING MOTO-TRUC




***A series of advertisements*** *in local and nearby newspapers emphasize why Bigelow-Sanford is a "Good Place to Work." Jobs available at the Thompsonville plant for men and women are listed together with wage rates and other pertinent information regarding personnel policies of the company, employment advantages, advancement opportunities, bus schedules from surrounding localities, and hours of application.*

# *Skillful Publicity Aids*
# *LABOR PROCUREMENT*

***The remodeled personnel department*** *houses, among others, the office of the employment supervisor, and a records section.*

***HIGHLIGHTS:*** *Employment increased from 4,000 to 7,000 in 2 yr. at Bigelow-Sanford—Newspaper advertising plays vital part—Friendly atmosphere pervades personnel department.*

**By HOWARD S. KNOWLTON**
*New England Editor, TEXTILE WORLD*

SYSTEMATIC AND FAR-SIGHTED handling of labor procurement has solved a major postwar problem at Bigelow-Sanford Carpet Co., Inc. The number of employees in the company's two plants at Thompsonville, Conn., and Amsterdam, N. Y., has been increased from 4,000 on V-J Day

# DEVELOP YOUR COLORS

## with U. S. P.

## SOLVAY Sodium Nitrite

## The secret of quality azo dyes

Leading dye makers and textile dyers *consistently* specify SOLVAY Sodium Nitrite to develop their azo dyes . . . *Experience* has proven to them that when they specify "Solvay," they get *quality* colors. If *you* want quality, specify SOLVAY.

**SOLVAY SALES CORPORATION**

*Alkalies and Chemical Products Manufactured by The Solvay Process Company*

**40 Rector Street** **New York 6, N. Y.**

*BRANCH SALES OFFICES:*

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit • Houston
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SOLVAY
TRADE MARK REG. U. S. PAT. OFF.
SODIUM NITRITE
(U.S.P.)

***A receptionist greets** prospective employees and assists in filling out forms. Prospects await interviews in waiting room.*

***Facilities are provided** for private employee interviews in pleasant surroundings.*

(August, 1945) to 7,000 in July, 1947. These additions in personnel were reflected in increased output and sales.

To obtain the additional labor needed at Thompsonville, the personnel department has emphasized the attractiveness of its employment through an extended advertising campaign and has modernized the quarters of the personnel department.

The modernized personnel department enables the staff to welcome prospective employees in a comfortable and friendly atmosphere intended to make the prospect feel at ease from the moment of entering the premises. Interviews are conducted on a simple, man-to-man basis in readily accessible space permitting inquiries and answers to be made in private conversation.

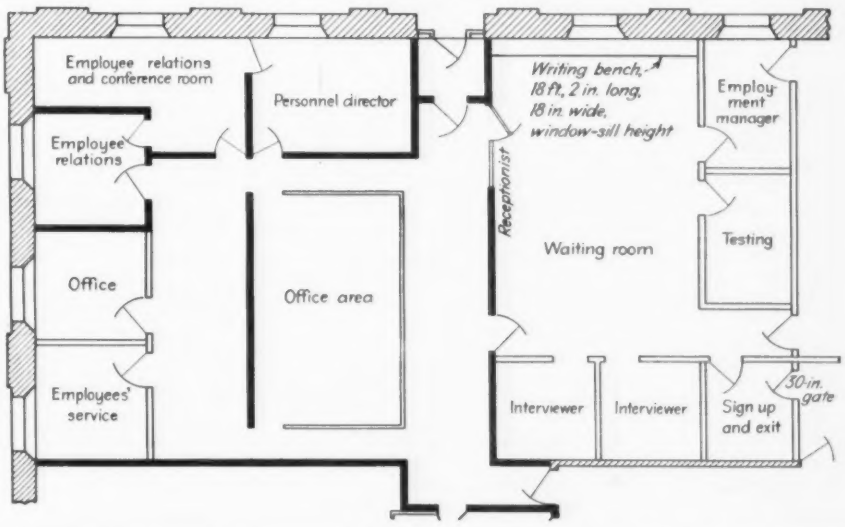
**ADVERTISING.** Initial interest in Bigelow-Sanford as a desirable place in which to work and develop has been largely created by newspaper advertising. These displays have been carried in all newspapers circulated throughout the area surrounding Thompsonville for about 25 miles, and a local high school publication in which the long-range opportunities in the company's service were featured.

These newspaper displays listed types of jobs open, departments needing help, weekly pay standards on each shift, overtime allowances, minimum job rates, progressive wage scales, free insurance plans, hours of work, open status of the personnel department on Saturday mornings from 8 a.m. to noon for the convenience of applicants for work, vacation and holiday conditions, and the place of women. Other advantages featured were a credit-union service, employees' magazine (*The* Weaver), a minimum rate of 96.5 cents per hr., existence of many long-service employment records, and an extended safety program in cooperation with the Liberty Mutual Insurance Co., which recently led to the award of a safety flag. Suggestions for betterment of plant operations, welcomed by the company at all times, furnish still another incentive for "tying up with Bigelow."

In advertising work opportunities, emphasis was constantly laid on the company's continuing policy of plant modernization, which includes improved working conditions, and which also tends to bring about higher individual earning power through the increase in production efficiency attained. Finally, the pride of accomplishment in achieving quality workmanship is brought out in the company's advertising as an added satisfaction resulting from working under "Bigelow" conditions.

Labor turnover at Thompsonville averaged less than 3% per month in 1946, and ran around 2.3% per month in early 1947. As a result of the program to secure additional employees, from 150 to 200 persons per week have lately called at the personnel department to inquire about work.

Without going into details of management, it should be added that an extended training course for supervisors has been an outstanding feature of the company's operations for many years. This has a marked appeal to young and ambitious employees who may possess qualifications for future advancement. Its attraction as a potential avenue of development needs no special emphasis as a prospective employee with latent or exceptional abilities views the possibilities of the future. It means that while the great majority of employees, as in other walks of life, may not attain supervisory responsibilities, the step of "getting a job in the mill" need not and should not imply that advancement is not possible for qualified and selected personnel.




***Layout of the remodeled** personnel department provides facilities for filling out employment applications and for private employee interviews.*

# CUT YOUR PROCESSING COSTS

## WITH Cyanamid SULPHONATED OILS

*A Wide Range of Superior Oils*

is becoming more generally available as Cyanamid's channels of raw material supply continue to open up.

AMONG CYANAMID PRODUCTS FOR THE TEXTILE INDUSTRY ARE . . . AQUASOL* Sulphonated Castor Oils, NO-ODOROL* Finishing Oils, DECERESOL* OT Wetting Agents, Penetrants, Softeners, Finishes, Sizing Compounds, PARAMUL** 115 Water Repellent, and other specialties and Heavy Chemicals.

For low-cost chemical equivalent of distilled $H_2O$ . . . FILT-R-STIL* Demineralizing Units.

**Trade-mark *Reg. U. S. Pat. Off.

Yes! Cyanamid sulphonated oils will help you cut right through one of your most pressing problems. For when you use Cyanamid sulphonated oils, you put increased efficiency and dependable performance to work *cutting your costs* by improving your processing. For the absolute uniformity and high quality of Cyanamid oils—made possible through large-scale production methods—eliminate costly guesswork and help achieve excellent results every time.

*Industrial Chemicals Division*

AMERICAN CYANAMID COMPANY

30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.

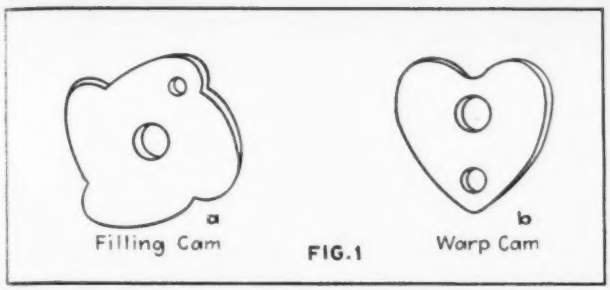


FIG.1

***After bringing the ring rail down*** *and securing it with the locking pedal, the second step in changing from filling wind to straight warp wind is to remove filling cam, a, and put on warp cam, b.*

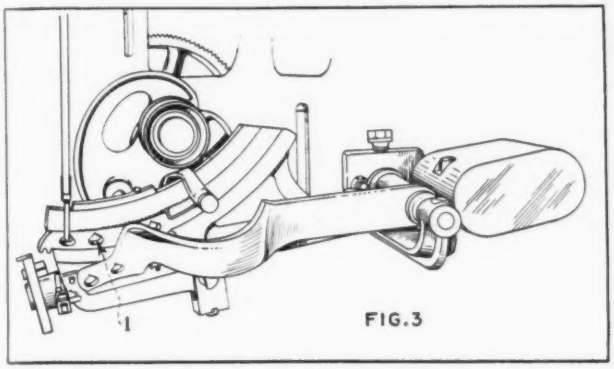


FIG.3

***The Whitin combination builder*** *has several settings for the chain hook. Note the warp rack-arm* **1** *and the holes where the chain hook may be inserted. The holes permit settings such as are diagrammed in relation to the bobbin in Fig. 4. The outer (or left hand) hole shown above corresponds to the No. 1 setting or stroke shown in Fig. 4.*

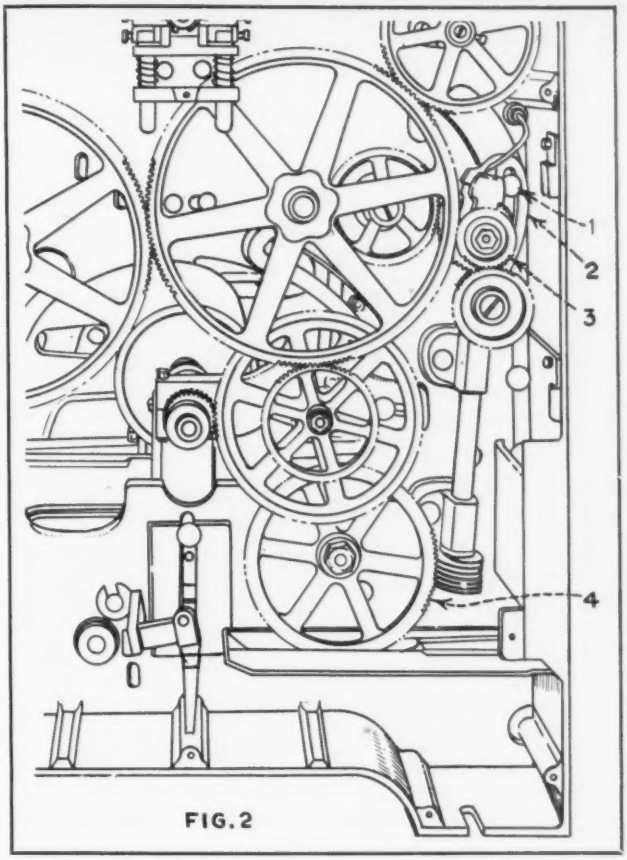


FIG.2

***The third step*** *in changing the builder: Raise head-end panel, and release lay gear from mesh by loosening bolt* **1** *on swing arm* **2**, *raising arm, and re-tightening nut on bolt. Cam gear* **4**, *now free of control, can be hand-moved by fixer during the setting of the traverse.*

# *Fixers Should Know How to* SET BUILDER

***HIGHLIGHTS:*** *Fixer manual shows all adjustments for filling-to-warp shift in spinning wind—Cam, rack, and quadrant changes should be memorized—Illustrations can be posted in spinning-room for convenience of all fixers.*

**By F. H. GUNTHER & MARCUS GROSS**

WHEN FIXERS are instructed properly in the tasks of adjusting the builder and other winding mechanisms of the spinning frame, much unnecessary waste of yarn and loss of production may be avoided. A manual or a simple set of written instructions is almost a necessity for competent training of fixers in such tasks. To illustrate the use of a fixer's manual in one large spinning room, the instruction sheet on a change in bobbin build from filling wind to warp wind is printed herewith. Overseers, second hands, and fixers should have copies of the sheet, and one mill posts a copy of such instructions in spinning alleys, one sheet to the section. For general mill use, the sheet is entitled, "How to Set the Builder for Straight Warp Wind."

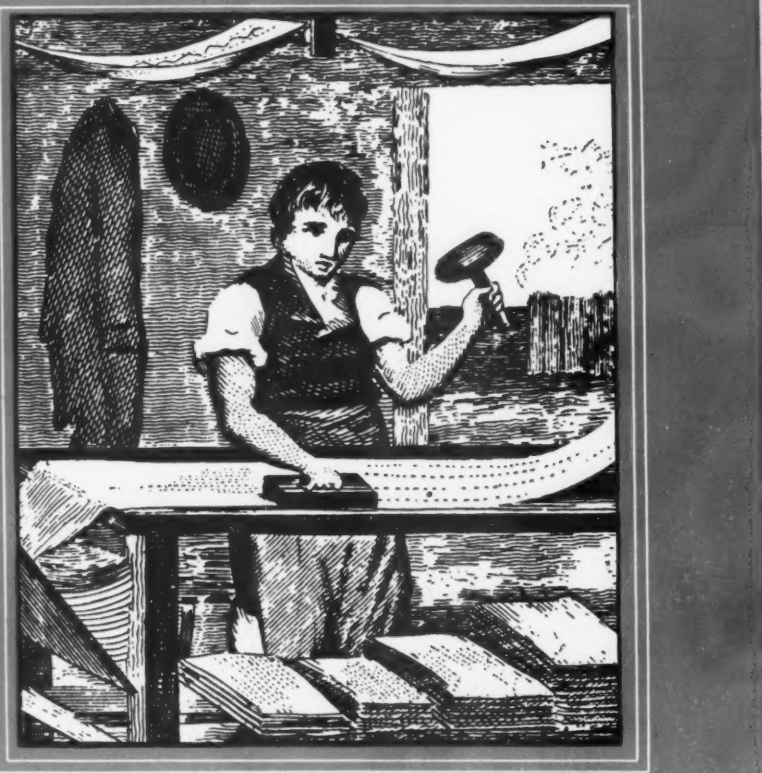
**DESCRIPTION OF WARP BUILD.** When set for straight warp wind, and with rack fully wound out, the builder allows the first layer of yarn to traverse the full length of the stroke upon the bobbin. As the picking action of the pawl causes the rack to move toward the fulcrum of the builder, the traverse of yarn upon the bobbin shortens and continues to shorten until the bobbin is full. The length of taper upon the bobbin is controlled by the number of picks of the wheel moved by the pawl and by the number of teeth in the lay gear.

**CHANGE INSTRUCTIONS.** In the following instructions for straight warp wind, it is assumed that the change in wind is from filling to warp on the Whitin builder. Some change in the sequence of the steps outlined may be made, and the same results obtained.

1. Bring the ring rail down and secure it with the locking pedal.

2. Remove the filling cam and replace it with the heart-shaped warp cam. (Fig. 1, a and b.)

3. Raise the head-end panel and release the rail or lay gear from its mesh with the other gears. Consult



Early Calico Printer in Philadelphia—around 1840
*—from Bettman Archive*

The speed and dependability of Rapidase in the de-sizing of cottons, rayons and mixed goods are important factors in preparing today's fabrics for dyeing, printing, and bleaching. Its effectiveness over a wide range of pH and temperature is especially desirable in modern finishing practice.

# RAPIDASE

**WALLERSTEIN COMPANY, INC.** **180 Madison Ave., New York 16, N. Y.**

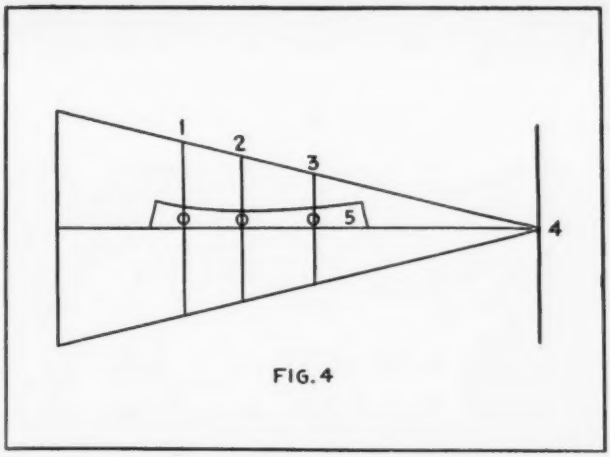



FIG. 4

***Typical settings** of the chain hook to the warp rack-arm are indicated by Nos. 1, 2, and 3, with their corresponding relationships to the stroke of the ring rail on the bobbin. Stroke No. 1 is obtained by setting the chain hook in hole or setting No. 1; stroke No. 2 by setting No. 2; etc. The fulcrum of the builder is indicated by No. 4. The setting of the chain hook should be carefully checked, not only during the start-up of the frame but also during the subsequent operation. Fixers and doffers should understand that the chain hook must always be in the same hole when starting a doff. If the chain slacks during the doff and slips out of its setting, as occasionally happens, it should be reset in the same hole. Otherwise, a bad set of bobbins will result. For example, if the correct setting of the chain hook was in the second hole, and by accident it was moved to the first position indicated in the diagram above, the chain would let off the traverse to permit a longer stroke on the bobbin. If started in the third setting, the chain would restrict the traverse to a shorter stroke on the bobbin.*

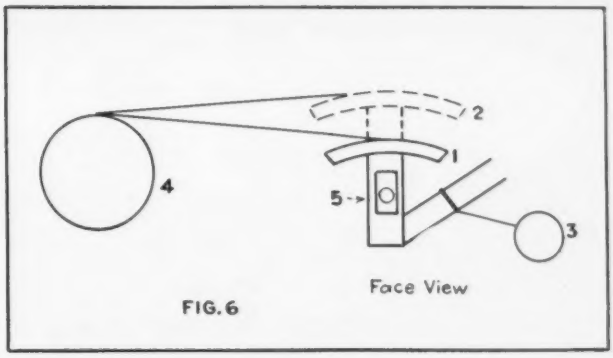



FIG. 6

***When the fixer gages** the starting traverse of the straight warp wind, experience, good memory, and practice are his best tools—experience and practice, because he must proceed by "trial and error" in setting the quadrant; memory, because he should fix in his mind the two factors upon which the above diagram is based: the lower the quadrant, the longer the traverse; and the higher the quadrant, the shorter the traverse. Once the traverse is set, the quadrant position does not change; though the traverse changes as the chain hook travels on the rack arm toward the fulcrum of the builder. Shown above are the maximum and minimum settings of the quadrant, the angles of chain from the chain pulley to the quadrant, and the relative position of the rocker. With the quadrant in the lowest or No. 1 position, the rocker has its longest stroke; and the angle of the chain appears as the lowest one in the diagram above. With the quadrant in the highest position, the rocker has its shortest stroke; and the angle of the chain appears as the highest one in the diagram. The chain pulley is designated by No. 4, the bolt insert by No. 5. Note the rocker weight which should be inspected occasionally. It should be so placed as to raise the ring rail without "dwell"; yet not so heavy as to be unreasonably burdensome to the doffer.*

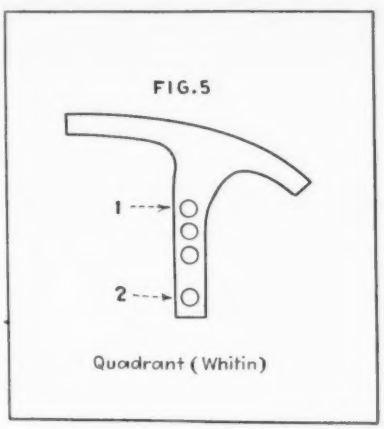



FIG. 5

***To set quadrant** at lowest position, insert bolt at the No. 1 position. For highest quadrant setting, insert bolt at the No. 2 position.*

Fig. 2, which gives fuller instructions.

4. The Whitin combination builder (shown in Fig. 3) has three settings for the chain hook. Settings are changed by shifting the chain from one of the three holes in the rack to another. Once this setting is made, fixers should understand that it should not be changed except when a different traverse is desired. See Fig. 4 for a complete explanation of these settings.

5. Determine the starting traverse. See Figs. 5, 6, and the following instructions in setting the quadrant.

6. Note that when the filling cam was removed, the quadrant setting was in the lowest position shown in Fig. 6. This setting was necessary to obtain the desired filling traverse because of the short "raceway" on the filling cam between heel and toe. It is obvious that this quadrant setting will be too low for straight warp wind because the warp cam "raceway" is longer than the heel-to-toe distance on the filling cam. The resulting traverse on the warp bobbin would be too long, if the quadrant were left in this position.

7. Loosen nut on the bolt that extends through the quadrant arm. Raise the quadrant approximately 1½ to 2 in. as a temporary setting.

8. The traverse in relation to the bobbin has now been shortened in both directions, and it may be necessary to take up the chain in order to lower the traverse to the starting position.

9. Turn the cam by hand until the toe rests center-to-center with the Pitman roll on the builder.

10. Note the position of the ring rail, which is now at the starting position.

11. If the rail position is too high, unlock rail and take up the chain at the quadrant end.

12. If the rail position is too low, unlock rail and let out chain at the quadrant end.

13. It may be necessary to raise or lower the quadrant again in order to find the correct starting traverse. (See Fig. 6 again.) Memorize the instructions needed on quadrant and rocker settings.

14. Once the proper starting traverse at the bottom of the warp bobbin is found, bring the rail down and lock it. Mark the lowest setting of rail with pencil on the bobbin.

15. Turn cam by hand until heel rests center-to-center with Pitman roll.

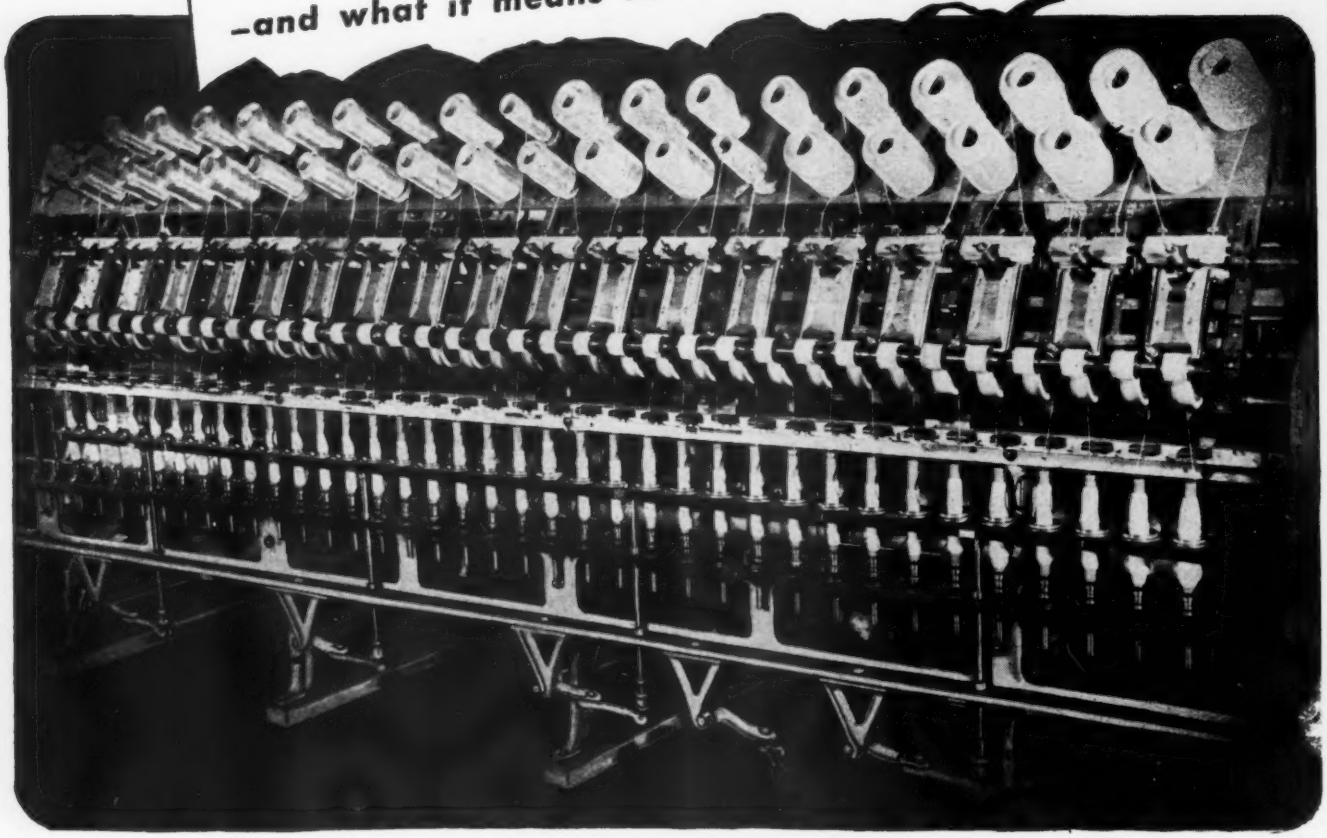
16. Unlock rail, and bring traverse to highest point on the bobbin. Mark the position with pencil. The length of traverse is now known. If the traverse is still too high, raise the quadrant slightly and replace the rail with the toe of the cam center-to-center with the Pitman roll. Turn the cam by hand. If the traverse is too low, lower the quadrant, and so on.

17. Check the length of taper at top and bottom by winding the rack "in." Mark positions on the bare bobbin. Have taper approved by second hand.

18. Check twist, draft, and lay gears.

19. Set the pick immediately after starting the frame. Rack must be wound out fully.

**WHAT THE MEDLEY SYSTEM IS**
**–and what it means to the textile Industry**



# THIS IS THE
# MEDLEY DIRECT SPINNER
## you are hearing so much about

Here in the MEDLEY plant this Direct Spinning machine is daily processing, in one operation, yarns from continuous filament rayon tow. It is MEDLEY'S belief that fibers with variable staple lengths can be so processed into yarns.

The Direct Spinner is no accident. It is one of many fine developments which the MEDLEY SYSTEM is constantly bringing to the Textile Industry. It is the result of an endless striving to *simplify processes, step up efficiency* and *cut labor costs* in all types of textile mill operations.

Throughout the industry the now famous MEDLEY Drawing has proved its ability to deliver a sliver of minimum possible variation. MEDLEY'S 5-Roll, "8 ends up" drawing is unique in that here again through MEDLEY engineering, efficiency has been stepped up. MEDLEY "8 ends up" drawing will handle *all* fibers, including cotton, synthetics, wool, ramie and blends in all staple lengths from very short up to 13 inches, and *produce a more uniform sliver.*

Means have been developed to change over your present drawing—whatever its type—to utilize the MEDLEY principle with its sealed-in ball bearing top rolls—its quiet, helical gears.

If your production is lagging—if costly breakdowns are bothering you—if you need repair or replacement parts—if you need help in any phase of textile manufacture—call or write MEDLEY for the counsel of a trained textile or mechanical engineer.

***Medley has it—or Medley will make it!***

# The MEDLEY System, Inc.

**400 32nd ST., COLUMBUS, GEORGIA**

*Medley Manufacturing Co., Columbus, Ga. • Gastonia Roller, Flyer & Spindle Co., Gastonia, N. C. • Allan Textile Machine Co., Pawtucket, R. I.*

**1.** *Goods are moved by hand from washers and loaded directly into the extractor basket which is placed nearby.*

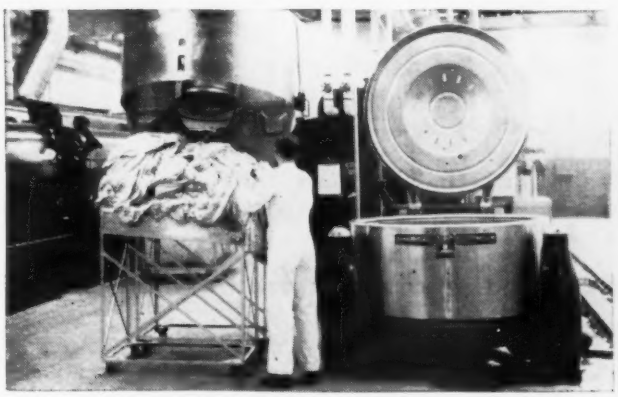
**2.** *Loaded basket is carried by electric hoist and lowered into extractor.*

# MATERIALS-HANDLING
## Used in Extracting and Drying

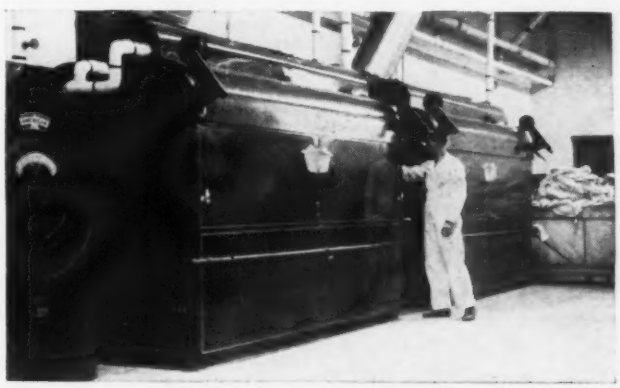
***HIGHLIGHTS:*** *Overhead conveyor hoist facilitates movement of goods to and from extractor—Cabin Crafts, Inc., installs new battery of finishing machines—Hand operations in moving goods are reduced to minimum.*

A NEW INSTALLATION of washing, extracting, and drying machinery has been set up in the plant of Cabin Crafts, Inc., Dalton, Ga. This department is housed in a separate building under special supervision. The equipment, supplied by the American Laundry Machinery Co., includes wash wheels, extractors, and tumbler dryers. The set-up is serviced by a ceiling conveyor system for easy handling of the company's product. The latest oil-fired steam-generating unit has also been installed to provide steam to the main plant and also to this new finishing department. The pictures show one cycle in the washing and drying department from the unloading of the washer to the starting of the tumbler dryer. The conveyor hoist is used principally in handling the extractor basket.

**3.** *Extractor is now ready for closing of cover and operation. Cycle is controlled from special switch box.*

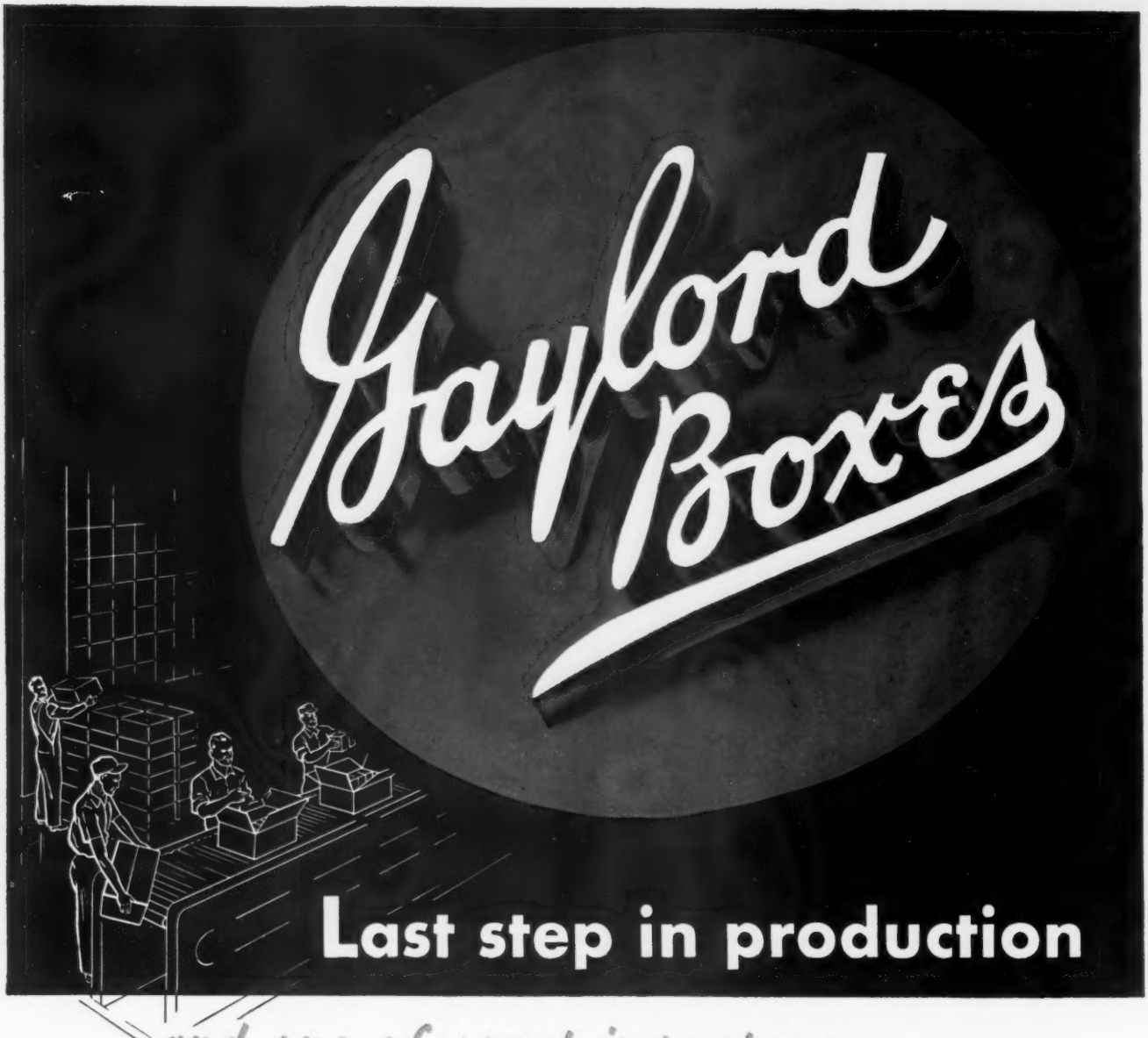


**4.** *Basket is inverted by hoist after extraction and load of goods is placed on carrier for easy pushing to the tumbler dryers.*



**5.** *Tumbler dryers are at work. When dried to normal moisture content, the goods will be taken to next department.*

# Gaylord Boxes




*—and one of great importance*

- Corrugated and Solid Fibre Boxes
- Folding Cartons
- Kraft Grocery Bags and Sacks
- Kraft Paper and Specialties

*Standard of the Packaging Industry*

As your finished product rolls off the production line it represents all of your skill and knowledge of precision manufacturing.

Gaylord Balanced Design gives you containers of ample, dependable strength to effect delivery in factory-perfect condition.

**GAYLORD CONTAINER CORPORATION, General Offices: SAINT LOUIS**

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Columbus • Fort Worth • Tampa • Cincinnati • Dallas • Des Moines • Oklahoma City
Greenville • Portland • St. Louis • San Antonio • Memphis • Kansas City • Bogalusa
Milwaukee • Chattanooga • Weslaco • New Haven • Appleton • Hickory • Greensboro • Sumter

127

**Table 1.**
**Relationship Between Yarn-Quality Factors and Fiber Properties**

| Yarn-quality factor | Multiple correlation coefficient | Variance explained (%) |
|---|---|---|
| Strength, 100s | 0.933 | 87 |
| Strength, 60s | 0.927 | 86 |
| Appearance, 60s | 0.862 | 74 |
| Appearance, 100s | 0.844 | 71 |
| Card waste (%) | 0.806 | 65 |
| Picker and card waste (%) | 0.727 | 53 |
| Picker waste (%) | 0.413 | 17 |

***Table 1.*** *The multiple correlation coefficient, 0.933 in the case of the strength of 100s combed yarn, indicates that a relationship of 0.933 exists between the six fiber properties, considered collectively, and the strength of 100s combed yarn, with a perfect relationship considered as 1.0. The nearer the coefficient approaches 1.0, the more dependent is yarn strength upon the six fiber properties. Thus, the relationship between the fiber properties and the strength of 100s yarn (0.933) is more nearly perfect than that between the fiber properties and the percentage of picker waste (0.413). Therefore, 87% of the variance in strength of 100s yarn is accounted for by six fiber properties, while only 17% of the variance of picker waste can be explained by the fiber properties.*

# FIBER PROPERTIES
# Determine Combed-Yarn Quality

***HIGHLIGHTS:*** *Fineness influences combed-yarn strength more than any other fiber property—An increase in fiber length is insignificant to yarn strength—Yarn appearance and percentage of card waste are influenced by fiber properties—Only grade of cotton affects picker waste.*


As based on a report

**By ROBERT W. WEBB and HOWARD B. RICHARDSON**

*Cotton Technologists, U. S. Dept. of Agriculture*


RESULTS OF FIBER and yarn tests on long-staple, combed cotton indicate that:

1. Lowering the grade of cotton one step, such as from Middling to Strict Low Middling, reduces the strength of 60s combed yarn 0.18 lb. and 100s combed yarn 0.38 lb.

2. Increasing the upper-quartile length 1/32 in. reduces the strength of 60s combed yarn 0.24 lb. and 100s combed yarn 0.08 lb., or, in other words, causes no appreciable change in the strength of the yarns.

3. Increasing the coefficient of length variability 1% decreases the strength of 60s combed yarn 0.41 lb. and 100s combed yarn 0.24 lb.

4. Increasing the weight of fiber one microgram per inch decreases the strength of 60s combed yarn 8.93 lb. and 100s combed yarn 6.08 lb.

5. Increasing the percentage of mature fibers 1% increases the strength of 60s combed yarn 0.23 lb. and 100s 0.14 lb.

6. Increasing fiber strength 1,000 lb. per sq. in. increases the strength of 60s combed yarn by 0.39 lb. and 100s by 0.19 lb.

It is generally thought that fiber length becomes increasingly more important to yarn strength as the count of the yarn becomes finer. As indicated in result No. 2, however, such is not the case. On the other hand, fiber fineness, result No. 4, has a very significant influence upon yarn strength.

**IMPORTANCE OF FINENESS.** An increase in yarn strength frequently is associated with an increase in fiber length or staple length. In such cases, the increased yarn strength is due, not to the increase in fiber length itself, but to an associated increase in fiber fineness, fiber strength, or both.

As a practical matter, selecting cottons to meet specific needs is made possible by the fact that fiber fineness is rather closely associated with fiber length; and fiber strength is noticeably associated with fiber fineness. Thus, staple-length designations and standards are essential to practical cotton marketing and commercial manufacture.

In considering the fact that fiber length within itself has been found

**Table 2.**
**Method of Processing Tested Cottons**

1. Finisher picker (twice)
2. Card
3. Sliver lapper
4. Ribbon lapper
5. Comber
6. Drawing frame (once)
7. Slubber
8. Intermediate roving frame
9. Fine frame
10. Jack frame
11. Spinning frame (regular draft)

**Table 3.**
**Comparative Grades for Different Growths of Cotton**

| American Upland (saw ginned) | American Egyptian (roller ginned) | Sea Island (roller ginned) |
|---|---|---|
| 3.0 (GM) | 1 | 1 |
| 3.5 (GM−) | ---- | 1½ |
| 4.0 (SM) | 1½ | 2 |
| 4.5 (SM−) | ---- | 2½ |
| 5.0 (M) | 2 | 3 |
| 5.5 (M−) | 2½ | 3½ |
| 6.0 (SLM) | 3 | 4 |
| 6.5 (SLM−) | 3½ | ---- |
| 7.0 (LM) | 4 | 4½ |
| 7.5 (LM−) | 4½ | ---- |
| 8.0 (SGO) | 5 | 5 |
| 8.5 (SGO−) | Below 5 | 6 |
| 9.0 (GO) | ---- | Below 6 |

# confidence

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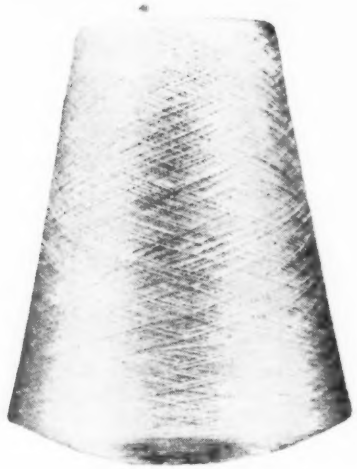
. . . A proven characteristic of Boger and Crawford. Our high Quality yarns and forthright business dealings for over forty years warrants the confidence a growing majority in the knitting industry manifests for our yarn. Let us help YOU make your product one of merit.



**BOGER & CRAWFORD**

**MERCERIZED YARNS**

PHILADELPHIA, PA. • UTICA, N. Y. • BOGER CITY, N. C. • BOSTON, MASS. • CLEVELAND, OHIO

*Table 4. Each figure in parentheses indicates the rank of importance of the fiber property to the strength of the combed yarn. The plus or minus sign preceding the coefficient indicates the direction of the contribution of the fiber property to yarn strength. Thus, if a plus sign appears, it indicates that an increase in the value of the fiber property contributes to an increase in yarn strength. The presence of an asterisk (*) indicates that the contribution of the fiber property is statistically insignificant.*

*Tables 5 and 6 follow the pattern of this table.*

to be unimportant to the strength of combed yarns and of only moderate importance to the strength of carded yarns, it should be emphasized that these findings apply only to yarn strength. These results carry no implications of any lack of importance of fiber length to the adaptability, service performance, and life wear of products manufactured from cotton.

Test data indicate that strength and fineness are the two most important fiber properties influencing the strength of 60s and 100s combed yarn. Fiber strength decreases and fineness increases in importance as finer counts of yarn are spun. Of the six fiber properties considered, upper-quartile length was the least important to strength of the two counts studied. Its importance was actually statistically insignificant.

**YARN APPEARANCE.** In the order of net importance to the appearance of yarn, the six fiber properties rank as follows:

*60s combed yarn*

1. Coefficient of length variability
2. Fiber fineness
3. Upper-quartile length
4. Grade of cotton
5. Fiber strength
6. Percentage of mature fibers

*100s combed yarn*

1. Upper-quartile length
2. Grade of cotton
3. Coefficient of length variability
4. Fiber fineness
5. Percentage of mature fibers
6. Fiber strength

Whereas, coefficient of length variability ranked first as to effect on the appearance of 60s yarn, it ranked third in importance to the appearance of 100s yarn. In the case of both yarns, four fiber properties—length variability, fineness, upper-quartile length, and grade of cotton—were important factors influencing yarn appearance. Percentage of mature fibers and fiber strength had negligible effects on the appearance of the yarn.

(Continued on page 208)

**Table 4.**
**Importance of Fiber Properties to Strength of Combed Yarn**

| Elements of raw cotton | Partial correlation coefficient (strength of combed yarn) | |
|---|---|---|
| | (60s) | (100s) |
| Fiber strength | (1) + 0.758 | (1) + 0.711 |
| Fiber fineness | (2) − 0.584 | (2) − 0.658 |
| Coefficient of length variability | (3) − 0.426 | (3) − 0.434 |
| Percentage of mature fibers | (4) + 0.333 | (4) + 0.363 |
| Grade of cotton | (5) − 0.288 | (5) − 0.244 |
| Upper-quartile length | (6) − 0.239 | (6) − 0.148* |

**Table 5.**
**Importance of Fiber Properties to Appearance of Combed Yarn**

| Elements of raw cotton | Partial correlation coefficient (appearance of combed yarn) | |
|---|---|---|
| | (60s) | (100s) |
| Coefficient of length variability | (1) + 0.451 | (3) + 0.336 |
| Fiber fineness | (2) − 0.422 | (4) − 0.313 |
| Upper-quartile length | (3) + 0.418 | (1) + 0.444 |
| Grade of cotton | (4) + 0.285 | (2) + 0.391 |
| Fiber strength | (5) − 0.198* | (6) − 0.155* |
| Percentage of mature fibers | (6) − 0.115* | (5) − 0.233 |

**Table 6.**
**Importance of Fiber Properties to Manufacturing Waste In Combed Yarn**

| Elements of raw cotton | Partial correlation coefficient (manufacturing waste) | | |
|---|---|---|---|
| | (Picker) | (Card) | (Picker and card) |
| Grade of cotton | (1) + 0.234 | (1) + 0.568 | (1) + 0.500 |
| Coefficient of length variability | (2) + 0.214* | (4) + 0.104* | (4) + 0.193* |
| Fiber fineness | (3) − 0.160* | (3) − 0.248 | (3) − 0.252 |
| Percentage of mature fibers | (4) + 0.113* | (6) + 0.002* | (5) + 0.070* |
| Upper-quartile length | (5) − 0.057* | (2) + 0.432 | (2) + 0.261 |
| Fiber strength | (6) − 0.056* | (5) + 0.031* | (6) − 0.016* |

## Combed Yarn Strength Formula

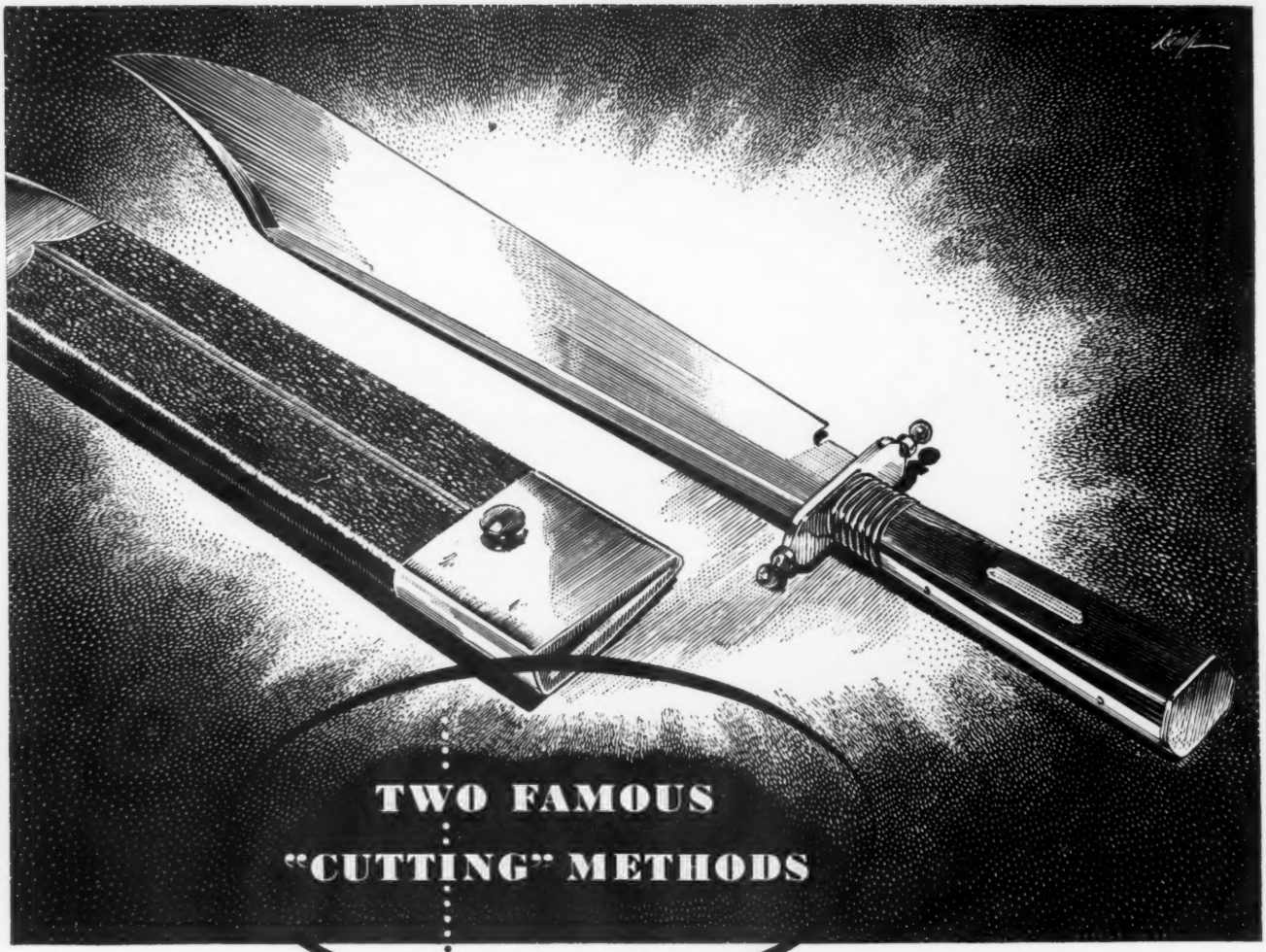
One of the many valuable bits of information on relation of certain fiber properties to combed yarn strength contained in the USDA report is the formula for determining the approximate breaking strength in pounds of any count of combed cotton yarns when 18% waste is removed by the comber.

In the tables of equations contained in the report for estimating the strength of combed yarns reported, only equations for estimating 60s and 100s are given. Strength of other counts of combed yarn than those reported, where extra long staple cottons are used similar to the present series of cottons, however, may be obtained by using the following formula:

$$S_2 = \frac{C_1 S_1 - (C_2 - C_1) \times 12}{C_2}$$

where: $C_1$ = counts observed
$C_2$ = counts desired
$S_1$ = yarn strength (lb.) of observed counts
$S_2$ = yarn strength (lb.) of desired counts

Actual strengths may be expected to differ with the percent of waste removed. It has been estimated that each 2% increase in comber waste results in a 1% increase in yarn strength.




## 1. BOWIE KNIFE

*. . . named after its inventor, a man named Bowie. An all-purpose knife with a strong blade from ten to fifteen inches long, a single edge, with its back straight throughout most of its length and then curved concavely to the point, to which the edge curves convexly. One of the great knives of American history.*

# 2. ALEMITE

## *Modern Lubrication Methods that* CUT PRODUCTION COSTS

Yes! It takes more than a famous knife to cut production costs. But listen to this welcome news!

*In big and small companies—from the largest steel plants to laundries—Alemite is adding More Production Time to machines and cutting production costs thousands of dollars a year.*

For instance—through Alemite's help, one company adds $140,000 More Productive Time a year to machines for an initial investment of $10,000.

Another saves $8000 a year on one phase of its operation alone.

Those are just two examples. So, if you're hunting for ways to cut your production costs, better find out what Alemite can do for you. Because the Alemite Lubrication Representative has probably helped to solve problems identical or similar to your own, he is fully qualified to discuss your situation with you. For an interesting conference at your desk, without obligation, write Alemite, 1888 Diversey Parkway, Chicago 14, Ill.

STEWART WARNER

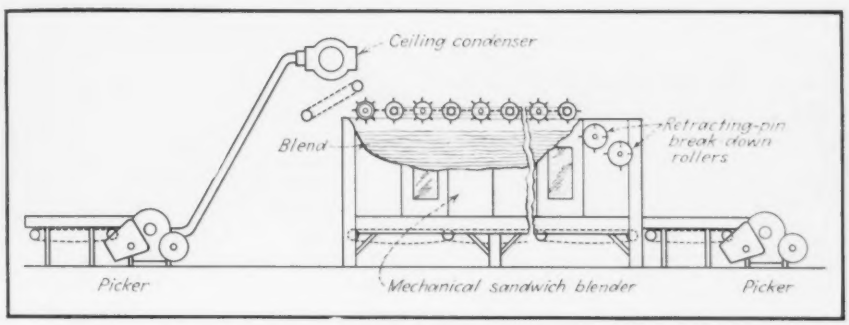
Using an Alemite LubriKart, this company boosts production by cutting down-time for lubrication. This complete portable lubrication department on wheels is just one of many ways Alemite helps to cut production costs by effecting operating economies.

TEXTILE Equipment NEWS

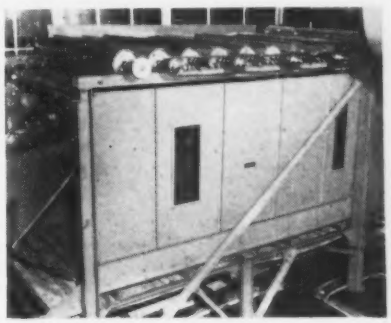
## Sandwich Blend Made Mechanically

The fully automatic sandwich-blending system mentioned by Gustav Zellnik in TEXTILE WORLD, May, 1946, p. 125, has now been developed into a reality by Proctor & Schwartz, Inc., Philadelphia 20, Pa. Designed originally for wool blends, it can be adapted for use on cotton or synthetic blends.

The mechanical sandwich-layering unit consists of a series of power-driven rollers mounted over a bin, and fed by a ceiling condenser. The stock drops from the condenser and travels over all the revolving rolls until it reaches the far end. At this point, a timing mechanism reverses every other roll momentarily, creating a series of feed rolls out of what formerly were a series of conveyor rolls. The action of the rolls drops the stock onto the temporarily stationary apron at the bottom of the bin. This action is repeated and layers of fibers to be blended are laid on top of each other in successive layers in the bin. When the bin is full, the overhead feeding is stopped and the apron in the bin started forward. Breakdown rollers which have retracting pins draw out and compress the mass of stock and feed it evenly to a picker for further processing. This arrangement insures "picking down" through the several layers of stock for maximum blending action.




*Hand labor formerly used in forming sandwich blends of fibers is eliminated by this new mechanical blender. (Proctor & Schwartz)*



*View of the bin section of the mechanical sandwich-blend system. (Proctor & Schwartz)*

## Open-End V-Belting May Be Purchased in Reels

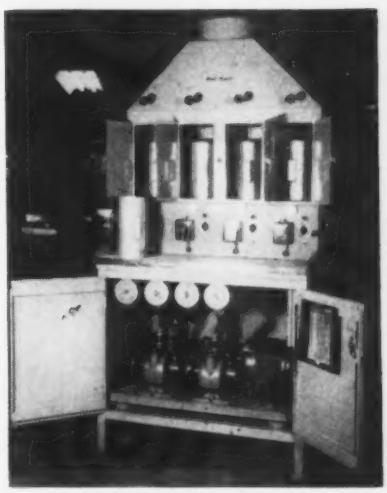
*Trials and tribulations experienced in the ordering of V-belts may now be ended by use of open-end V-belting recently announced by Goodyear Tire & Rubber Co., Akron, Ohio. The belting may be purchased in reels of 450 to 550 ft. in length. Special fasteners are available for splicing open ends, to be applied with specially-designed tools. The open-end belting is supplied in standard top widths of 21/32, 7/8, and 1-1/4 in. The Goodyear V-belts are made of multiple layers of heavy cross-woven fabric, and have a specially developed cover for maximum flexibility and external wear.*

## Fiber Moisture Content Determined by Tester

A new dryer for testing moisture content of fibers or fabrics has been developed by Baird Associates, Inc., Cambridge, Mass., for use in the laboratory or in routine tests made in close proximity to production departments. One mill now using the equipment makes from 400 to 450 routine moisture tests daily.

The new dryer consists of four heating chambers, each with a 1-hp. motor-driven pump and a 1,000-watt Glo-coil. Heated, filtered air is forced through the sample container continuously, and reliability of the apparatus is unaffected by humidity of the air entering the pumps. Thermoregulators control the temperature within 2° C. over a range from 70° to 170° C. Timers are provided on each drying chamber, and four to eight samples can be dried simultaneously.

In one worsted plant, samples of relatively low density, as scoured wool top, and noils, have been dried effectively at 120° C. for 10 min.; and then reweighed after an additional drying

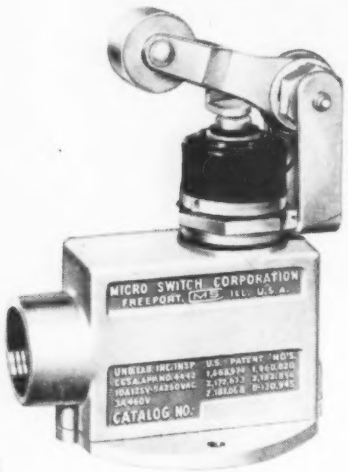


*Moisture determination of fibers is made rapidly and accurately close to actual point of operations by this new tester. (Baird)*

time of 3 mm. Materials of higher density, as closely woven and fulled fabrics, require a longer time but good results have been obtained in 13 min. at 120° C.

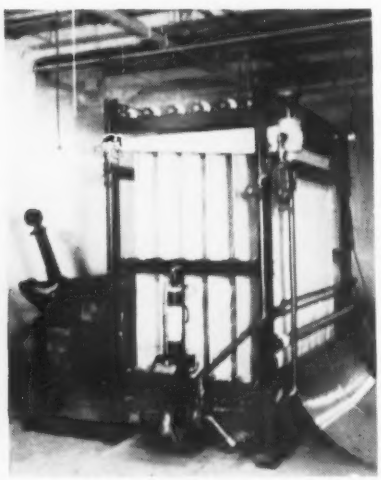
Mill tests of the new dryer and conventional dryers show more consistent results and more rapid determination.

## Sealed Precision Switch



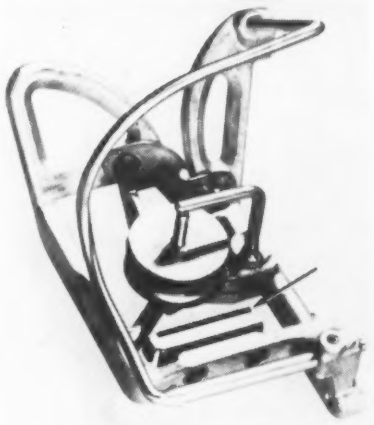

*A switch completely sealed to dust, dirt, abrasives and occasional splashes of liquid has been announced by Micro Switch, Freeport, Ill. Designed for cam-and-slide actuation, the roller-arm actuator is adjustable both vertically and horizontally. The switch requires an operating force of 6 to 16 oz., and weighs about 2/3 lb.*

## Cloth Conditioned By Evaporated Water



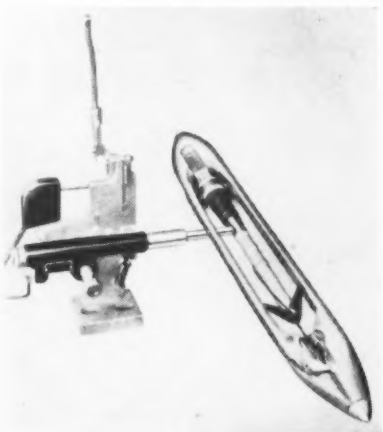
*A new cloth-conditioning machine in which hot, dry cloth regains normal moisture lost in drying or pressing by natural evaporation in passing close to, but not touching, water surface has been announced by Sjostrom Machine Co., Lawrence, Mass. The machine is equipped with the American Cyanamid Filt-R-Stil (TEXTILE WORLD, Aug., 1947, p. 146) which delivers a constant flow of absolutely pure water at the rate of 8 gal. per hr.*

## Slub-Catcher Anvil For Abrasive Yarns



*A long-wearing slub-catcher anvil for use with abrasive yarns has been developed by Universal Winding Co., Providence, R. I. The anvil portion of the slub-catcher is faced with a strip of Carboloy cemented carbide, the hardest of man-made metals. In mill tests for over a year, the new slub catcher has shown no sign of wear, it is reported.*

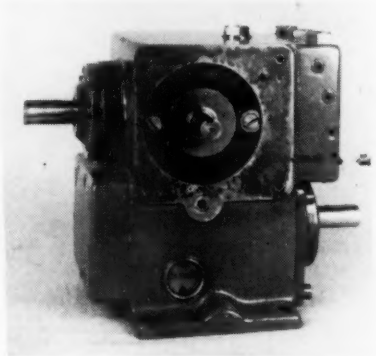
## Electric Feeler Used With Metallized Bobbins



*Long life and dependable operation are claimed for this electric filling feeler operating with a spray-metallized bobbin. (A. & W.)*

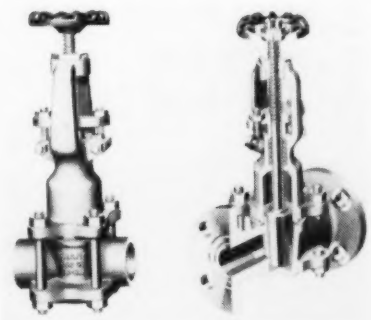
A new electric filling feeler for use on Crompton & Knowles worsted looms, making use of a metallized bobbin, has been developed by A. & W. Machine Co., Charlton City, Mass. The feeler fastens to the loom in the conventional manner and has only one adjusting screw in the mounting. There are six contact points in the feeler end, three of which are mounted in jewels. A current of 12 v., 5 amp. is necessary for operation; and it may be connected to the same transformer which operates the warp-stop motion, or a separate transformer may be installed. The manufacturer is equipped to spray-metallize bobbins for use with this feeler, and it is claimed that the metal will adhere to the bobbin for 3 to 5 yr. even where bobbins receive rough handling and steaming.

## Small Hydraulic Speed Transmission



*A small, variable-speed hydraulic transmission, claimed to be the smallest of its kind available, has been developed by Portman Machine Tool Co., New Rochelle, N. Y. The drive provides infinitely variable speeds from zero or neutral to full electric motor speed in either direction. The self-contained unit is of the multiple-piston, constant-torque type, and has a rating up to 1 hp. and a maximum output torque of 52.5 lb. in. Various types of controls can be furnished. Dimensions are 9¼ in. high, 11 in. long including shafts, and 7 in. wide.*

## Plug-Gate Valves

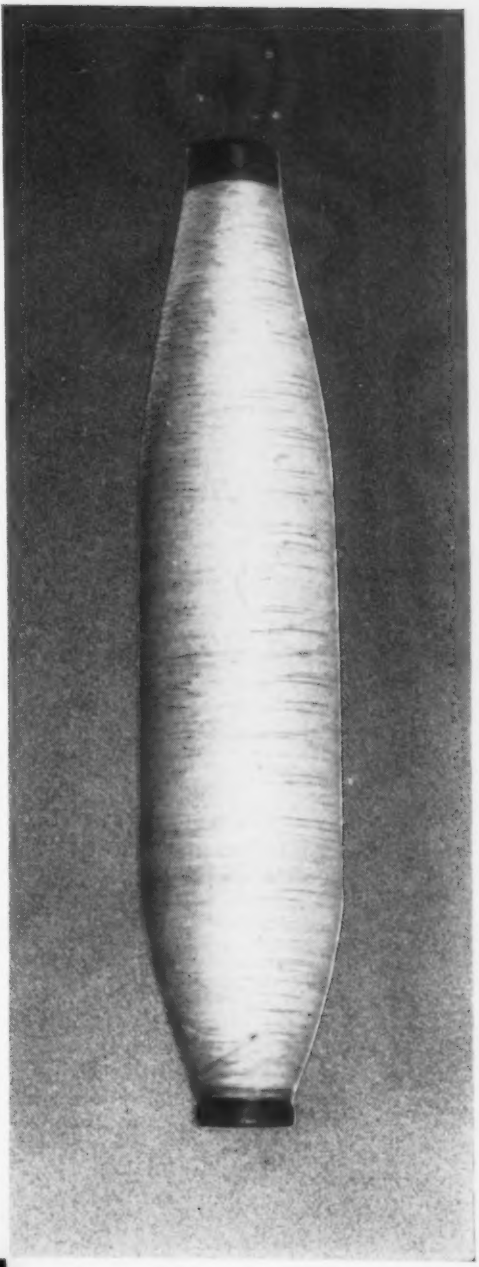


*A new line of corrosion-resistant plug-gate valves which provide straight-through flow in wide-open position as a conventional gate valve, but which are as suitable for throttling service as conventional globe valves, have been announced by Crane Co., Chicago, Ill. It is claimed that the valve has a maximum discharge equal to that of a wedge-gate valve and about twice that of a globe valve. The design permits close throttling at both high and low velocities, and resistance to cutting action of fluids when in a throttled position is equal to that of conventional plug-type globe valves. Sizes are available from ½ in. to 2 in., with either screwed or flanged ends, and of various corrosive resistant alloys.*

# SONOCO
# STRAIGHT SIDE
## WARP SPINNING BOBBIN

BUILDS FULL
UNIFORM
TRAVERSE

The spindle fits the "cushion grip" with a gentle squeeze to force top-drive contact which breaks sharp and easy, without drag or pull in doffing.



The secret of success of the SONOCO Warp Spinning Bobbin is the level-running of *all* bobbins on the frame—which permits building a full traverse wind on *every* bobbin. . . This bobbin seats firmly on the spindle and is securely held in position by its exclusive "Steep-Taper Cushion-Grip."

SONOCO bobbins are made in four standard lengths and outside diameters for varied traverse, ring diameters and angle of yarn pull.

sonoco
SERVES THE WORLD
PAPER CARRIERS
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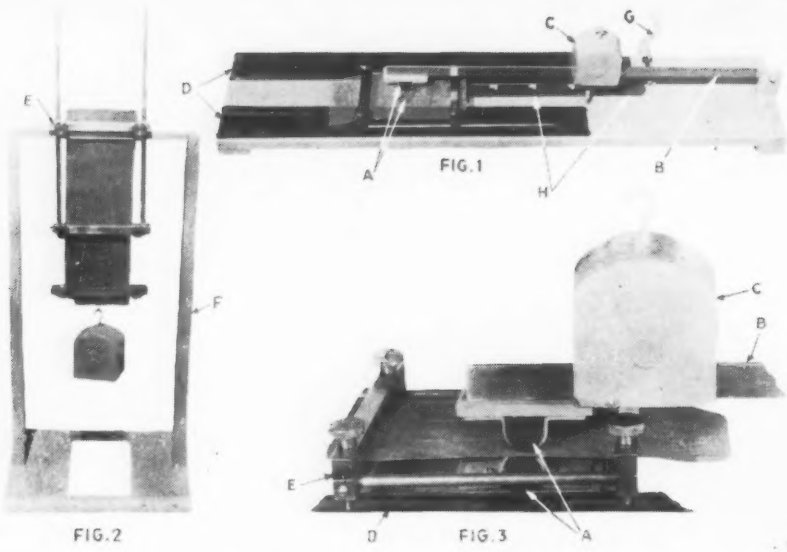
## SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN

DEPENDABLE SOURCE OF SUPPLY




*A test procedure and tentative standards have been developed for use with this apparatus for testing yarn shift or "blistering" in fabrics. (U. S. Testing Co.)*

## Apparatus Tests Shifting of Yarn

A new apparatus and procedure for testing yarn shifting in fabrics, a condition described as "blistering," has been developed by U. S. Testing Co. Hoboken, N. J. The fabric shift tester is basically a mechanization of the "thumb and finger" test. It was accepted by the government during the war for testing of shifting in nylon marquisette insect netting, and the test procedure was written into Federal Specification CCC-T-191-A, supplement Oct., 1945.

The apparatus, shown in the accompanying photograph, consists primarily of a pair of rubber jaws (A), one of which exerts the downward pressure through a weight (C) riding on the calibrated arm (B). The test specimen shown being clamped in the carriage, Fig. 2, is drawn between the rubber jaws for a fixed distance (1 in.), by the eccentric (G). The maximum opening created in the fabric under predetermined loads is measured by means of a gage furnished as part of the test equipment.

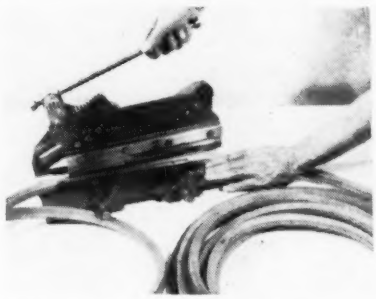
## Bolster Cleaner

*A pneumatically driven wire brush for removal of lint and other waste from inside roving-frame bolsters has been developed by Keller Tool Co., Grand Haven, Mich. The brush has wire bristles sufficiently flexible to be inserted through the small diameter of the bolsters then spring out behind the bore to contact and clean inside surfaces.*

## Moist-Air Slasher Made in Britain

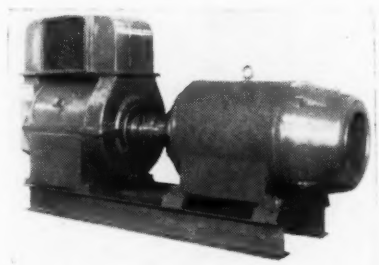
A slasher which dries and conditions sized yarn by means of moist air has been announced by Jos. Hibbert & Co., Ltd., of Dorwen, England. Speeds as high as 45 yd. per min. on 2,880-end warps of 17s yarn, with 12½% of size being applied are claimed. The only drying agent with which the yarn comes in contact is air. Air entering the drying chamber is pre-heated to 180° F., then passes through the main heaters which raise the temperature to between 250° and 300° F. The hot air passes through the warp sheet once in each of two sections in the heating chamber, and a regulator permits a certain percentage of used air to pass out of the machine while drawing in fresh air. A cooling valve reduces air temperature from 250° to 300° F. to room temperature in about 3 sec. in case lengthy stoppages are necessary.

## Leather V-Belting



*Open-end leather V-belting is now available from Charles A. Schieren Co., 30-39 Ferry St., New York, N. Y. The V-belt is made in A, B, C, and D sections, and is supplied in 100-ft. rolls. The belt is constructed so that the sides are of flat, full-grain leather, it is reported. Mechanical fasteners or a lapped splice are used to make the belt endless; and lap presses, tension rods, and clamps which install the belt under any desired tension are also available from the manufacturer. Leather V-belting for fractional horsepower drives, in 1/4-, 5/16-, 3/8-, and 1/2-in. sizes is also available on spools in 100-ft. lengths.*

## Totally Enclosed Generator



*A new line of totally enclosed, unit-cooled generators has been announced by the Motor Div. of General Electric Co. for use in motor-generator sets or in other applications where the ratings involved make totally enclosed fan-cooled construction impractical. Ratings are available from 30 to 150 kw.*

*Cooling of the generator is accomplished by an air-to-air surface cooler which maintains safe winding temperatures at all times.*

**TEXTILE EQUIPMENT NEWS**

(Continued on page 210)

Easy-to-wash fabrics, knit of dependable Dixie Durene, seem NEVER TO GROW OLD. This strong, mercerized combed cotton yarn produces knit goods of lasting satisfaction. Such merchandise stands many washings . . . retains its lustre and softness . . . keeps that fresh-as-a-daisy look for a long, long time.

These sales-building factors are assured when your products are made of Dixie Durene . . . and its efficient performance on your machine helps to build profitable sales for you.

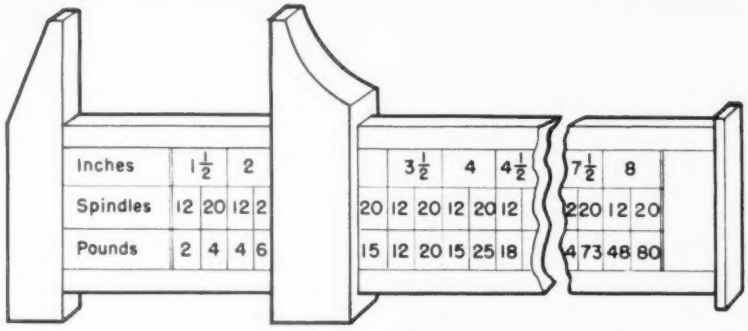
A Dixie representative can give you more information about Dixie Durene.

**DIXIE MERCERIZING COMPANY**

CHATTANOOGA 1, TENNESSEE

Dixie Durene
A PRODUCT OF CONTROLLED MANUFACTURE

# Kinks AND SHORT-CUTS




*Loss of production time can be avoided in the winder room by using this slide-rule caliper for estimating the amount of yarn on unfinished cones at shift-changing time. Instead of allowing the machine to remain idle while a part of a set could be run, the operator can run the part set with the assurance that piece-rate pay for the number of pounds run will be equitably apportioned. The calipers indicate the number of pounds run according to package diameter and spindle assignment.*

## Winder Production Aided By Slide-Rule Calipers

★ *Prize Winner for October*
*(August contest)*

Winder rooms that pay operators on a pound basis will find slide-rule calipers similar to that shown in the accompanying sketch useful in estimating the amount of yarn on unfinished cones at shift-changing time.

In our coning department, the running time of the sets varies from ½ to 1 hr., according to the weight of the wound cones, yarn size, and the operator's efficiency. Before we devised the calipers, operators who finished a set ½ to 1 hr. before the end of the shift were unable to start another set because it could not be finished during the shift. Overlapping on the next shift encroached on the time of the operator on the next shift.

This problem was further aggravated by the fact that doffing incomplete sets was impractical for the processes that follow winding. Doffing for weighing and then replacing the cones on the spindles resulted in poor yarn packages and consumed time and labor.

The practice, therefore, was to leave the machines idle for the part of a doff that could have been run before the change of shifts. This practice, of course, penalized the operator in pay and decreased the efficiency of the coning operation.

In order to eliminate this practice, the calipers were devised to provide a reasonably accurate gage for estimating the number of pounds of yarn contained on unfinished cones at the end of a shift. The calipers can be constructed of wood or metal. The only critical points to be considered in making them are: (1) the legs of the calipers must be long enough to reach the point of maximum diameter of the yarn package, and (2) the graduated scale must be long enough to measure the largest package wound. The end leg of the slide-rule calipers is stationary, and the inside leg is constructed so that it will slide along the scale.

The calibration of the scale must be computed for a specific application. The procedure we used was to select a number of packages of yarn so that all the yarn numbers and types of spindles in use were represented. A pair of calipers was made for each type of spindle, but it was found unnecessary to use different calipers for different yarn numbers on the same type of spindle. (However, winder rooms that cone very fine and very coarse numbers may find it necessary to use different calipers for these numbers, although the yarns are wound on the same type of spindle.)

The scale of the calipers was measured and marked at ½-in. intervals, beginning with 1½ in. Each measured interval was marked with the number of spindles assigned the operators on different yarn numbers. As shown in the sketch, spindle assignments for different yarn numbers on one type of spindle were 12 and 20.

As the selected cones were wound, the free ends were measured frequently. When a cone measured 1½ in. on the calipers, it was doffed and weighed. This procedure was repeated for cones measuring 2 in., 2½ in., 3 in., etc. The weight of the individual cone multiplied by the number of spindles in the job assignment equals the

## A $25 SAVINGS BOND FOR YOUR IDEA

A $25 SAVINGS BOND will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production; in brief, any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operation. Previously published material is not eligible for the award. Judges of contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at regular rates for this type of matter with an extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

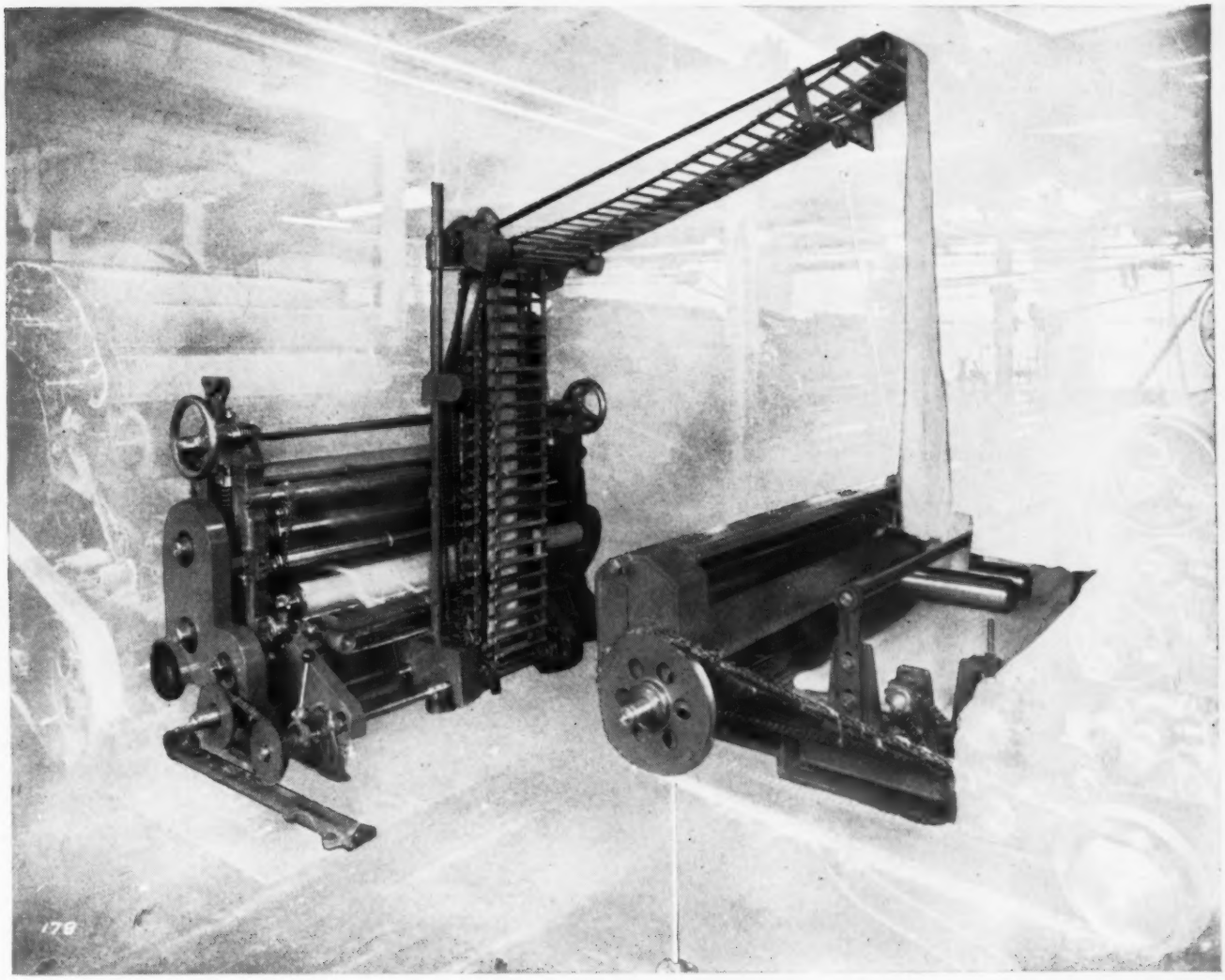
Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd Street, New York 18, N. Y.

# Duesberg-Bosson of America, Inc.

## Manufacturers of Woolen Machinery and the Patented **Peralta Machine**

***presents:***

its newly designed Intermediate Center Broad Band Feed



Furnished together with our **Peralta** or separately as a single unit.
Fits our **Peralta** perfectly, like a glove.
Saves lots of your valuable floor space.
Includes many improvements.

**Duesberg-Bosson of America, Inc.**

***351 Harris Avenue, Providence, R. I.***

**KINKS & SHORT-CUTS**
(Continued from page 154)

amount of yarn in the unfinished set.

To use the calipers, the person who keeps the record of the operators' production for the shift measures the free end of a cone in an unfinished set at shift-changing time. He records the number of pounds indicated on the calipers for that diameter package and spindle assignment. When the operator on the following shift completes the set and it is doffed and weighed, the weight recorded for the first operator is deducted from the total weight. The remainder is recorded for the second operator. *(K-734)*

## Knitting Mill Devises Brine-Handling System

We receive salt for use in setting dye in cotton hosiery in carload lots; and formerly, handling this salt and controlling the concentration of processing brine were quite a problem. The bags of salt were piled in the salt house and moved, as needed, to the dye house, where they were again piled up or stored in a big box. When brine was needed in a dye vat, salt was taken from the sacks in a bucket, weighed, and dumped into the vat. The vat was then revolved until the salt dissolved.

Besides being an unpleasant job, this method of handling salt resulted in waste and inaccurate dyeing. Salt was spilled on the floor and later washed down the drain; some of it (in lump form) did not dissolve in the dye vat and was flushed unused into the sewers. The fact that some of the batches of salt did not completely dissolve meant that we did not obtain uniform brine concentrations; and colors, naturally, were not even. Frequently, dyed hosiery contained streaks.

To solve the problem of handling salt and the inaccuracies in dyeing, we installed the dissolving, filtering, and storing system shown in the accompanying illustration.

The system consists of: (1) wooden feeding hopper *a* with a capacity of approximately 600 lb. of salt; (2) double, stainless-steel tank *b*, which consists of an inner, perforated salt tank and an outer water tank; (3) stainless-steel filter tank *c*; (4) stainless-steel brine tank *d* of approximately 300-gal. capacity; and (5) storage tank *e* of 60-gal. capacity.

Salt is now received unsacked in carload lots and is sacked at the mill in 125-lb. bags made at the mill. These bags of salt are stored in a corner of the mill adjacent to the brine room. The brine-making operation is as follows:

Salt is poured into wooden hopper *a* and moves by gravity to the inner, perforated salt compartment of tank *b*. Water enters the outer compartment of tank *b* through a pipe, the level being controlled by a ball float and check valve. Water from the outer tank enters the inner tank through the perforations and reduces the salt to a saturated solution (about 5 lb. of salt to 2 gal. of water).

This solution flows from the top of the inner tank through a pipe to the bottom of filter tank *c*, filled with fine gravel. The brine flows upward through the filter tank and through a pipe at the top to brine tank *d*, equipped with a ball float and check valve that work in conjunction with those that control the flow of water into tank *b*.

From brine tank *d*, the solution is pumped into storage tank *e*. It is then forced, under a pressure of 15 lb., to the dye house. A brine meter in the dye-house line registers the number of gallons of brine that flows into the dye vat. This meter, located in the main brine line, indicates the flow to any of the eight outlets at the dye vats.

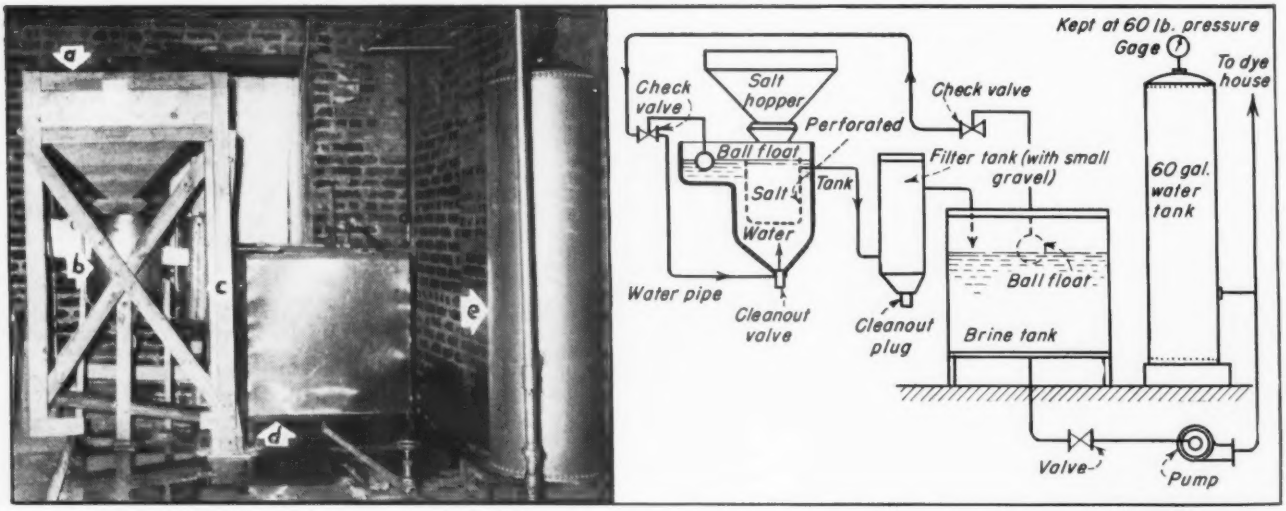
The ball floats and check valves on tanks *b* and *d* maintain a balance between intake and output, so that no overflow in the system is permitted. As brine is used in the dye house and the level of brine in tank *d* falls, the float lowers and automatically opens the intake pipe at tank *b*. When the water level in *b* reaches the desired height, the float shuts off the supply. *(K-663)*

## Half-Hose Mending Arm Uses Glass Custard Dish

Mending is a constant problem in most circular-knitting mills that make half-hose, anklets, etc. Various devices are used to hold the socks as they are mended, but the best mending stand that we have found is the one shown in the sketch on page 158. The critical point of this stand, and one which we have found quite valuable, is the glass custard dish at the end of the mending arm.

For some time we used only the wooden arm; but we found it objectionable because the wood had to be sanded and shellacked frequently, it caught the point of the mending needle and dulled it, and in extreme cases it picked threads in the hose. To avoid these troubles, we now use the glass cups on all our mending stands.

The stand that supports the mend-




*Salt poured into hopper a moves downward into a perforated salt tank inside water tank b. Water from b flows through the salt, and brine is drawn off through a pipe and transferred to filter tank c. From c, the solution flows into brine tank d and is pumped into storage tank e, ready for use in the vats in the dye house.*

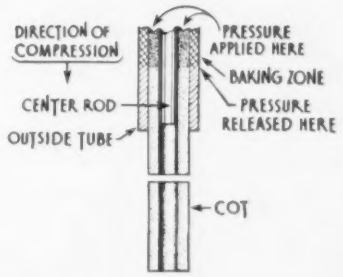
## *Armstrong's Cork Cots have extra "grip"*

The highly frictional surface of Armstrong's Cork Cots eliminates eyebrows. This extra "grip" carries clearer waste well back onto the clearer boards, so there's no danger of waste dropping off or being nipped into the work. Thus clearer picking is minimized and the number of slubs is reduced. At the same time, cork reduces clearer waste as much as 50%.

The extra "grip" of Armstrong's Cork Cots also gives you more uniform drafting and helps produce top-quality yarn. Their resilience and uniformity mean fewer ends down per thousand spindle hours, so your operators do less piecing up. These cots recover quickly from most laps and hard ends. They won't flow under roll weighting. And since they are extruded, they have no hard or soft spots to grip the yarn unevenly.

Ask your Armstrong representative for samples, prices, and additional information on Armstrong's non-eyebrowing, clean-running Cork Cots. Or write to Armstrong Cork Co., Textile Products Dept., 8310 Arch Street, Lancaster, Pa.

**EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS**




Armstrong's Cork Cots have no structural weakness to cause premature failure. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn.

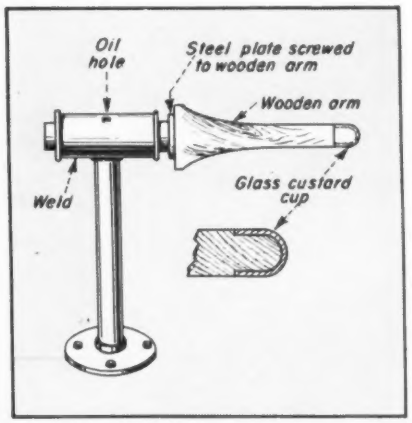
**Better running work . . . more poundage**

**ARMSTRONG'S CORK COTS**

ACCOTEX COTS • ACCOTEX APRONS

## KINKS & SHORT-CUTS

(Continued from page 156)




*A glass custard dish, bought at a local ten-cent store, can be secured to the end of a wooden, half-hose mending arm. The glass surface provides a working area for the mender that does not need sanding at intervals, does not damage the point of the mending needle, and does not pull threads in the hose.*

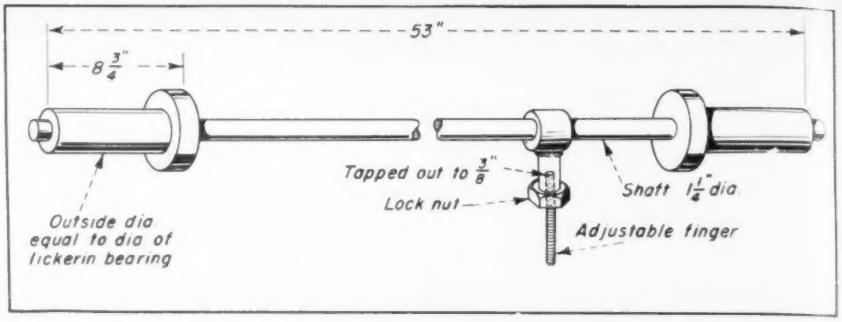
ing arm is made of cast-iron pipes. A circular piece of plate steel is used for the base of the stand, and this plate may be screwed to the floor or to a worktable. A length of pipe is welded upright in the center of the plate, and a short length of pipe is welded perpendicularly to the upright pipe at the top.

This horizontal pipe serves as a bearing in which a smaller pipe can be turned. A small steel plate welded to one end of the smaller pipe provides a means for securing the wooden mending arm to the smaller pipe. The wooden arm provides a circular surface over which a hose can be pulled in order to make a mend. The custard dish is secured to the outer end of the mending arm. (K-702)

## Set Lickerin Screens With This Adjustable Gage

The standard tool used by card grinders to set a lickerin screen and mote knives consists of a metal half-circle mounted on a shaft that extends across the card from the lickerin bearing on one side to the bearing on the other side.

Our cards are equipped with metallic card clothing, and settings are finer and more critical than are the settings on cards equipped with wire clothing. It is desirable, therefore, that we use a gage that can be adjusted to the exact diameter of each lickerin. We have found that better settings can be made in less time by using the adjustable-finger gage shown in the accompanying sketch instead of the standard half-circle.




*Accurate setting of a card lickerin and mote knives can be obtained by the use of this gage. After the lickerin has been set to the cylinder and removed, place the bearings of this gage in the lickerin bearings. Loosen the lock nut, set the adjusting pin to the cylinder, and tighten the lock nut. Since the collar around the shaft is free to move along or around the shaft, the finger can be used to gage any point on the screen or mote knives.*

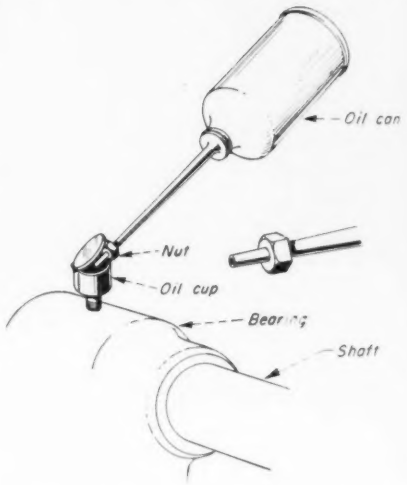
The gage is made as follows: A piece of 1¼-in. shaft, at least 53 in. long, is equipped with two bearings made as shown in the sketch. Each bearing should have an outside diameter equal to the lickerin bearing, and should be 8¾ in. long, including the inside shoulder.

The adjustable finger consists of a ring holder, lock nut, and threaded pin. The ring holder can be made by machining down a piece of bar steel ½ to 1 in. in thickness and about 2 in. wide, or it can be made by welding one end of a ¾-in. rod to a 1-in. length of pipe that fits snugly over the 1¼-in. shaft. The pipe or the ring machined in one end of this holder must slip easily along the shaft, but it must fit tightly enough to permit accurate gaging.

In the ¾-in.-diameter extension of the holder, tap a hole for receiving a threaded ⅜-in. adjusting pin. Screw this pin into the hole, and run a lock nut down over the pin until the pin is locked securely in the holder. Now place the finger holder over the 1¼-in. shaft, and put one of the bearings on each end of the shaft.

To use the gage, proceed as follows: Set the lickerin to the cylinder and lift out the lickerin. Place the gage in the lickerin bearings and unlock the nut on the adjustable finger. Screw the pin in or out in order to set it to the cylinder; and when the adjustment is made, tighten the lock nut. The finger now constitutes a gage that can be used to set the lickerin screen and mote knives to the exact settings desired in relation to the path of the lickerin. Since the collar and finger are free to move across the card and around the shaft, all points on the screen and mote knives can be set. (K-688) *W. M. Durden, Columbus, Ga.*

## Nut on Oil-Can Spout Used to Raise Oil-Well Cap




*Some of the oil cups on some types of looms are in an inconvenient position and are difficult to oil when the warp is mounted. This is especially true when trying to oil the bottom driveshaft inside bearings. All of these oil cups having spring-tension caps that must be lifted before the oil can be forced into the cup.*

*A small nut screwed over the end of the oil spout, as shown here, will aid in oiling these bearings. The nut should be of suitable thread and diameter to be fastened securely about ¼ in. from the end of the spout. To lift the cap and oil a bearing, use the nut as a lever. When the cap is lifted, the oil-can spout will be in a position to flush oil into the cup. (K-692)*

## Shuttle-Spindle Spring Tightened With Washers

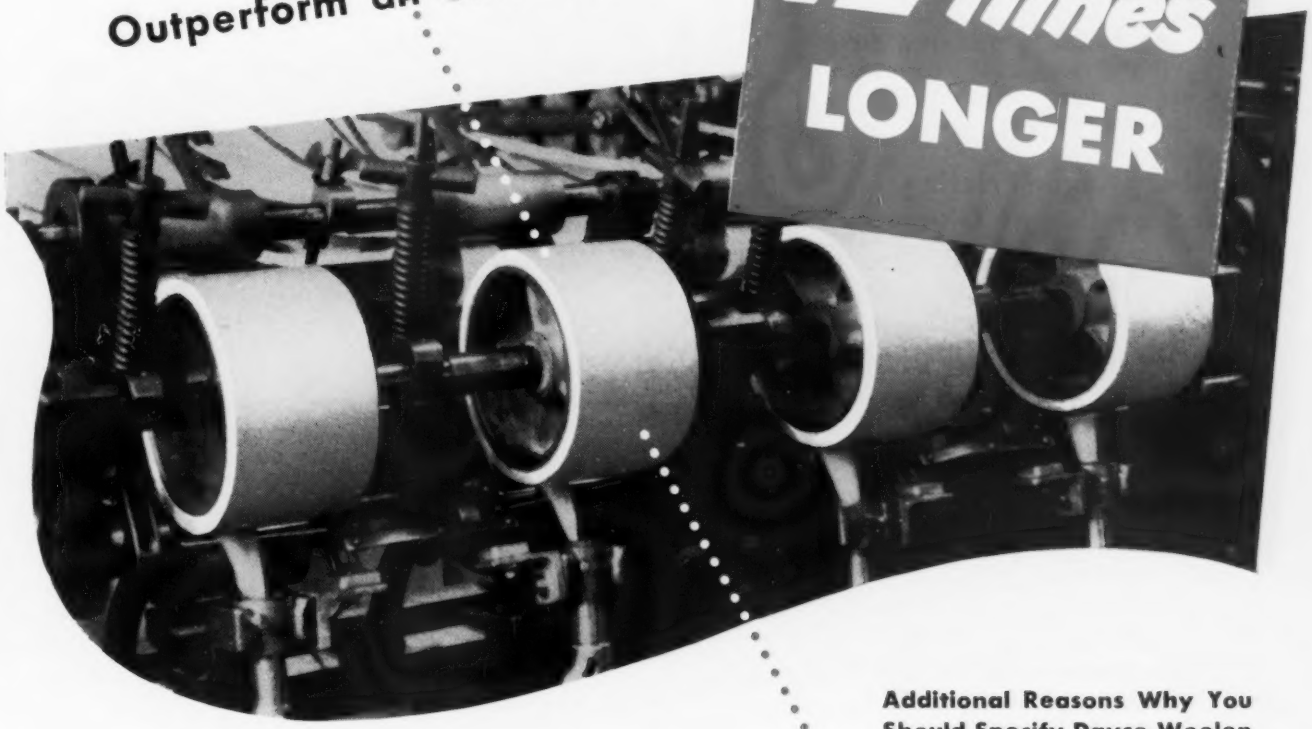
A loose shuttle spindle can cause much damage to the fabric being woven. Tight or loose picks, broken picks, fuzzy yarn as a result of broken filaments, and other defects can often be traced to a loose spindle.

The cause of the spindle looseness is usually a lack of tension on the spring at the base of the spindle. Insufficient tension will permit the spin-

Dayco Woolen and Worsted Cots

Outperform all other types

LAST 12 times LONGER



In mills everywhere, Dayco Cots are *lasting twelve times longer* than other type cots and, at the same time, *producing more uniform yarn.* Daycos provide unequaled, trouble-free performance . . . show no signs of grooving or other deterioration . . . because they are designed and engineered for their specific job. Made of special rubber compounds they are not affected by moisture, temperature extremes and other adverse operating conditions. They retain their original coefficient of friction and resiliency for years of record breaking service. It will pay you to write for additional information or have one of our textile product engineers call on you. Write today to . . .

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They reduce your power requirements.

**Dayton Rubber**

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

## KINKS & SHORT-CUTS

(Continued from page 158)

dle to vibrate; and if the vibration is bad enough, the spindle will cause the filling quill to rub against the upper warp yarns of the shed.

One way of increasing spring tension on the shuttle spindle in order to eliminate vibration is to insert a flat steel washer at each end of the spring. The washers should be of the same diameter as the spring. *(K-345)*

### Bemberg Rayon Printing Aided by Use of Glycerin

Printing plants frequently have trouble with Bemberg rayon fibers breaking during the handling subsequent to the printing operation. The material, after printing and drying, is in a delicate condition; and if it is folded before washing off, the fibers at the folds and at the pattern edges are likely to break and cause crease marks.

It is generally known that the tendency of the fibers to break is greater if the drying temperature applied after printing is high. However, much of the fiber breakage can be prevented by the use of carefully selected thickeners.

Thickeners that contain gum arabic, crystal gum, and similar products cause Bemberg fibers to break under conditions outlined at the normal drying temperature of 70° C. Such thickeners should therefore be avoided.

Damage to the fibers can be minimized by using thickeners of tragacanth, or one part tragacanth and one part British gum, to which at least 50 gm. per quart of mineral oil or other froth-preventing lubricant and 100 gm. per quart of glycerin are added. (In screen printing, half these quantities are sufficient to protect the rayon.)

The use of these glycerin-containing thickeners reduces the amount of dry substance applied to the yarns, and the yarns are given an elastic covering that reduces the tendency to break. *(K-716)*

(Bemberg is the tradename of American Bemberg Corp. for its cuprammonium yarn.)

### Adjustments Prevent Pin Holes in Shearing

Frequently, small pin holes appear in fabrics immediately after the shearing operation. Although this defect is often blamed on poor or careless burling, it is usually due to improper setting of the carriage that supports the revolver and ledger blade; and the defects can be eliminated by changing the position of the carriage.

The following procedure is an effective way of adjusting the shearing machine to avoid pin holes in the fabric:

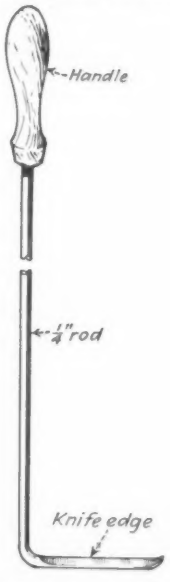
Strip the machine of cloth and remove the revolver. Bring the ledger blade down to the back edge of the rest. On a new rest that has not been filed or has been run so long that it has become rounded, there is a definite point at the back of the rest where the cutting edge of the ledger blade can be brought into full-length contact with the back of the rest.

When the blade is in contact with the back of the rest along the entire length of both, run the setscrews that control the cutting height of the blade all the way down, so that the blade remains down and in close contact with the back of the rest.

Insert a narrow strip of thin paper between the blade and the rest to gage the setting. If the blade tightly pinches the paper at different points along the length of the blade, the juxtaposition of the blade and rest is correct. This is the proper position from which to set the cutting height of the blade for various fabrics.

If this unbroken contact from end to end of the blade and rest cannot be obtained, no shearing should be done until one or both of them are changed and the correct juxtaposition is obtainable. *(K-740)*

### Spooler-Drum Laps Removed With Hook



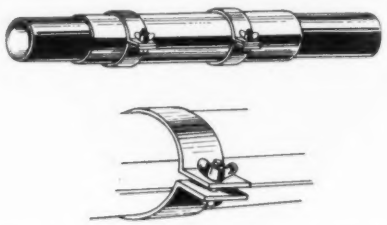

*A hook made from a piece of 1/4-in. rod and sharpened to a knife edge is useful in cutting out the laps of thread that get wound around the shaft between the drum sections of a Barber-Colman automatic spooler. It is also useful in pulling threads out of warper motors and off the sprockets of the warper creels. (K-721)*

### Split Tubing and Clamps Aid in Rounding Bent Pipe

When light-gage metal tubing has been bent, it is often flattened at the bend and must be rounded again before it can be used for many purposes. This rounding can sometimes be accomplished by the following method:

Secure a piece of tubing slightly larger in inside diameter than the outside diameter of the tubing to be rounded. Make a lengthwise cut in the larger tubing as shown and secure two sheet-metal clamps. These clamps should be equipped with wing nuts and tightening bolts.

To round the bent tubing, place the split tube over the flattened area. The slot cut in the larger tube will permit it to be forced over the bent tube. Now place a clamp over each end of the larger tube and tighten the wing nuts. When the nuts are completely tightened, remove the clamps and larger tube. *(K-744)*



*Light-gage tubing can be rounded by placing split tube over the distorted area and tightening clamps.*

### Spring-Needle Machine Needs Non-Skid Step on Bed

A breakdown of accidents occurring among operators of certain knitting machines will usually show three major groups: (1) minor cuts from various causes, (2) needle-puncture wounds, and (3) falls while removing heavy rolls from the overhead cloth take-up. Of the three types of accidents, falls are usually the most serious.

The design of the knitting machine is largely responsible for most of the falls. It is not convenient to use a ladder to stand on while removing the overhead cloth roll because the lower part of the machine will not permit a ladder to be placed near enough to the take-up. The table bed is the only part of the machine that provides sufficient space for a foothold. The surface of the bed is usually smooth and often covered with oil. It provides an unsafe support for a man handling the take-up roll, and most operators dislike the task of removing the cloth roll.

A safety plate secured to the edge of the table bed, as shown in the accompanying illustration, aids mate-

INDUSTRIAL AIR COMPANY
Needham · Massachusetts

GENERAL HEADING: Package Dryers
REPLACES NO.
UNIT NO. 4
INDEX: A-120.0
DATE: 4-4-47
PAGE: 1

SUBJECT: INDUSTAIRE PACKAGE DRYERS FOR YARN PACKAGES AND RAYON CAKES

Typical Industaire Package Dryer. This unit dries nearly 1200 pounds of yarn per charge. Temperature, humidity and air flow are automatically controlled to insure the highest quality results.

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With Industaire a tremendous volume of air is circulated *evenly* among the trays. Reversing fans insure maximum distribution of air that greatly speeds up the drying of yarn packages and rayon cakes.

These completely automatic duplex-compartment Industaire Package Dryers have 2″ fiber glass insulation sealed between sheets of aluminum. Trays are of stainless steel construction. Units are 24, 12 and 6 tray sizes.

A large number of textile concerns are now using Industaire Package Dryers and find that they save time and cut costs in plant operation. We'd like to send you, without obligation, free Data Unit #4 (shown above) which gives full details. Simply write us on company letterhead.

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***Other Industaire Products:*** **Tenter Frame Dryers, Exhaust Systems, Humidifying and Air Conditioning Systems, Expert Blower System Engineering.**

Air Engineering INDUSTAIRE Industrial Dryers

## KINKS & SHORT-CUTS

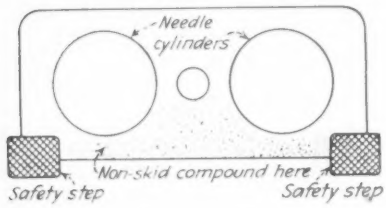
(Continued from page 160)

rially in reducing falls and improving worker morale.

Flat sheet iron $\frac{3}{8}$ in. in thickness may be used for making the step. The shape of the step is optional, but the contour of the machine should be considered. In order to place the step in the most effective position, it is sometimes necessary to cut a slot in the bed to avoid a jutting machine part. The step should be large enough to provide a rest for the entire foot of the operator. To secure the plate to the bed, drill and tap two holes for flat-head countersunk screws.

The upper side of the plate should be corrugated; or if smooth iron is used, a safety, non-skid floor compound should be applied to the upper surface.

Since the space between the cylinders provides adequate foot room and the cylinders themselves prevent dangerous slipping, the safety steps are needed only on the edges of the table. However, the non-skid compound should also be applied to the area between the cylinders. (K-745) *Albert M. Young, Jr., Philadelphia, Pa.*

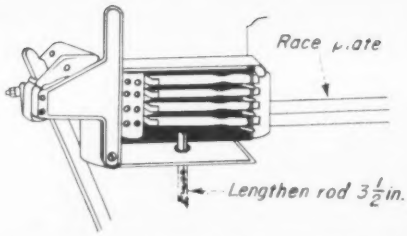



*In removing cloth rolls from the overhead take-up on a spring-needle knitting machine, the operator's foot frequently slips, sometimes causing him to fall. This accident hazard can be removed by installing safety foot plates as shown here and using non-skid floor compound on the bed between the cylinders.*

## Third and Fourth Shuttles Operate as First, Second

Most of the cloth constructions in our weave room are woven with two shuttles on 4x1 automatic looms. Occasionally, a box is broken in a spot where it cannot be repaired; and instead of discarding the box, we change it so that we can use the third and fourth cells instead of the first and second.

To make this change, we remove the shuttle-box lifter rod, secure a length of $\frac{5}{8}$-in. steel rod, and make a new lifter rod $3\frac{1}{2}$ in. longer than the standard rod. (Mills using shuttles larger or smaller than those we use will need to make the new lifter rod longer or shorter than the additional $3\frac{1}{2}$ in. in order to place the third and fourth boxes in exact operating position.)




*If a box break occurs on a 4x1 automatic loom that is weaving a two-shuttle construction, the box can be continued in service by lengthening the box lifter rod. A new lifter rod, sufficient in length to place the third and fourth shuttles in the operating positions formerly occupied by the first and second shuttles, can be made of $\frac{5}{8}$-in. steel rod. The lifter-rod spring should also be lengthened.*

When a box is changed in this manner, we do not alter the chain or the magazine color indicator in any way. (K-705) *Tom Vine, Huntingdon, Quebec*

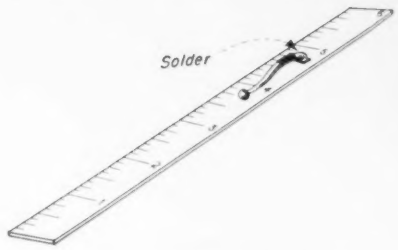
## Air-Deflector Plates Improve Card Selvages

Considerable difficulty is encountered in obtaining a good selvage on the card web when short-staple synthetic fibers are being run, and precautions should be taken to insure clean selvages, according to German technical reports. In addition to making a picker lap 1 in. narrower than the working width of the card (as a 44-in. lap for a 45-in. card and a 39-in. lap for a 40-in. card), air-deflecting plates may be needed to give better control of the air currents inside the card housing.

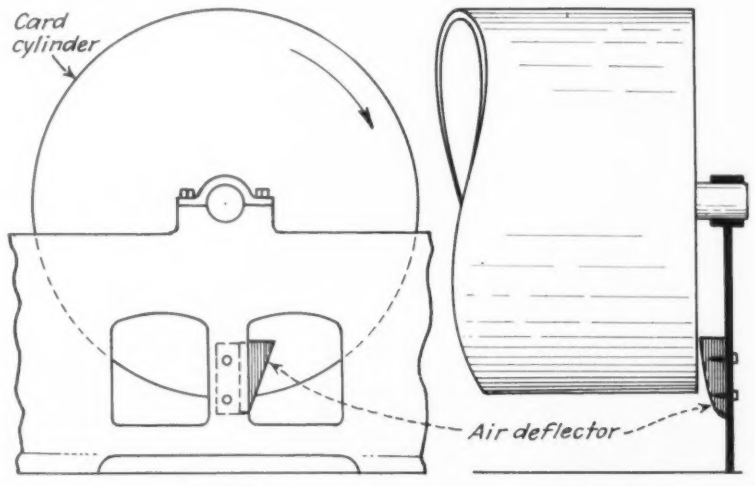
Such a plate, shown in the accompanying sketch, should be installed on the inside of the card housing directly beneath the cylinder bearing. The deflecting plate should be wedge-shaped vertically, as shown in *End View*, and have a wing extending upward and forward, as shown in *Back View*. The plate, of course, should be clear of the side of the cylinder.

As the cylinder runs and creates a flow of air downward in the front part of the housing, the deflecting plate throws the current of air sharply downward. This deflected air acts upon any loose fibers near the edge of the cylinder clothing, blowing them farther back on the surface of the cylinder. (K-746)

## Holder on Straight Edge Keeps Tool in Pocket

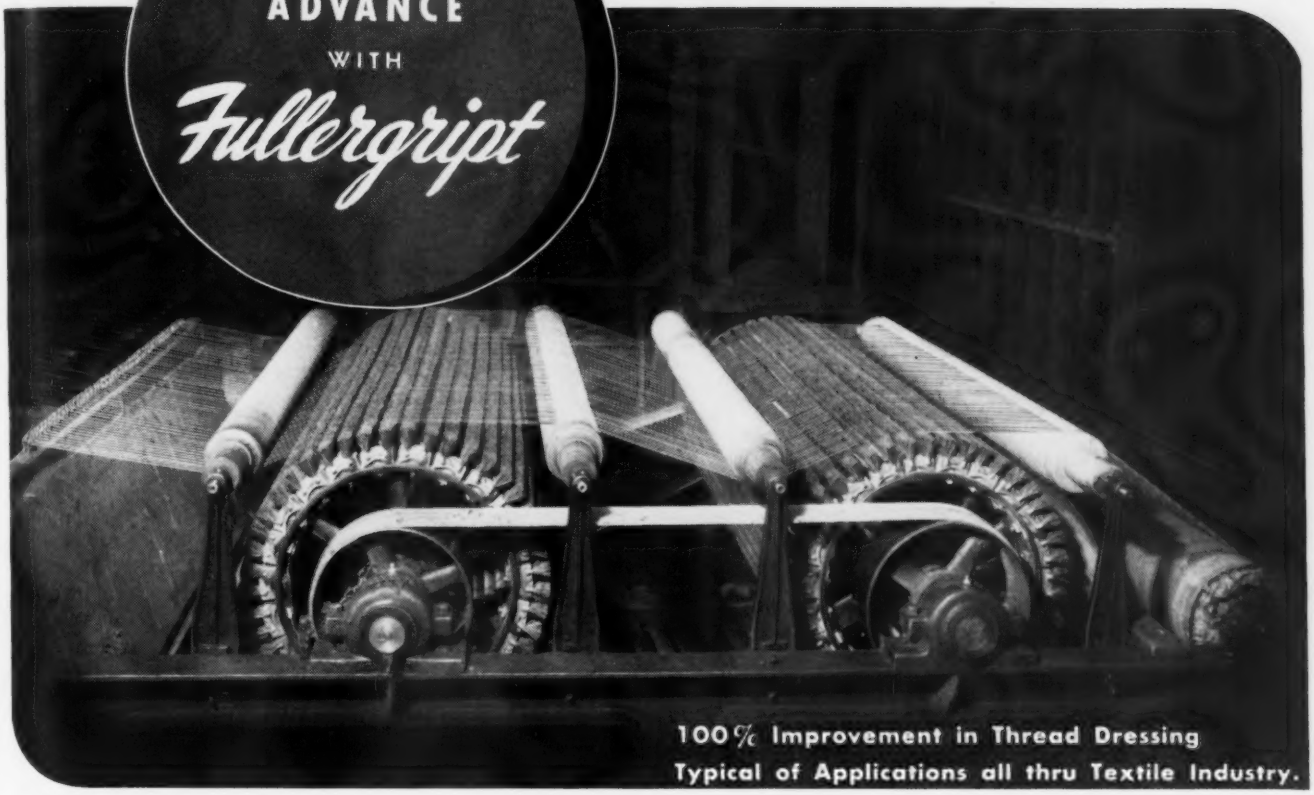



*To keep a pocket straight edge from falling out and perhaps getting lost, solder a pencil holder on one end. Inspectors, fixers, and foremen will find this a convenient way of holding rules that are frequently needed.*




*An air-deflector plate installed on a cotton card inside the card housing and below the cylinder bearing is useful in obtaining a better card-web selvage. The downward current of air created by the running cylinder is thrown sharply across the edge of the cylinder, thus blowing back any loose fibers that may be out of control at that point.*

# ANOTHER ADVANCE WITH *Fullergript*



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**Fullergript metal backbone strips provided passage for a greater concentration of heat to the threads, which means an improved glaze. The dense formation of brush materials in these strips reduced thread breakage — and also increased brush life.**

**The success of this application resulted in 34 thread mills switching to Fullergript. In many cases Fuller Engineers developed special mixtures of brush materials for individual circumstances.**

**Similarly, Fuller Engineers have pre-formed Fullergript in strips, coils, wheels, spirals, and have designed special mountings, so that Fullergript has improved production in every branch of the textile industry. These engineers are available to work on your problems. Why not write for a Fuller Sales Engineer to call?**

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A patented precision traversing device on the No. 250 Universal Nylon Sizing Machine has the effect of speeding up production by building better packages which permit faster conditioning and reduce rejects in coning.

The special heart-shaped cam distributes yarn evenly in alternately long and short traverses. This provides extra air space between yarn layers and facilitates drying.

Tubes wound on the No. 250 are used as supply on the No. 50 Coning Machine without intermediate re-draw.

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# Round Table

**FOR EXCHANGE OF IDEAS**—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

## Back Thread Guide Improves Yarn Quality

Woolen and worsted mills that are not using back-thread guides as slub catchers on their roving or spinning frames are missing an excellent chance to improve the quality of their fabrics.

The guides are made of steel and are plated with chromium. They can be fitted to roving or spinning frames and can be obtained with slits of various sizes to accommodate different weights of sliver or roving. The slit allows the end to pass through, but it is wide enough to permit only a normal end to pass. When thick places occur, caused either by slubs or bad piecings, the ends will not pass through but will be drafted by the back roll until they break.

Standard practice is to eliminate slubs at the winder by passing the yarn through a slub catcher. In a cloth woven with single filling, a piecing has to be burled as though it were a knot. The advantage of stopping a slub prior to the spinning frame is that the chance of spinning a doubling is reduced, since every end that breaks on the spinning frame is likely to cause a doubling; and a doubling is more costly than either a slub or piecing.

The back guide should be cleaned at every doff to remove any accumulation of short fibers. *(R-367)*

## Fiber Table Transposition

Please clip this out . . .

| | | |
|---|---|---|
| **Tensile Strength (g.p.d.)** | Std. | |
| *(Std. is 70° F. and 65% r.h.)* | Wet | |
| **Elongation (%)** | Std. | |
| *(Std. is 70° F. and 65% r.h.)* | Wet | |

. . . and paste it in the appropriate place on the 1947 Synthetic-Fiber Table you received in last month's issue. If you were one of the many who called this obvious transposition of type to our attention, please accept our thanks.—Editor.

## Place Drop-Wires on Warp Before Putting Warp in Loom

Putting drop-wires on a warp before the warp is placed in a loom offers the distinct advantage of gaining running time that would be lost if the drop-wires are placed on the warp after the warp is in the loom.

When the latter practice is observed, it is generally necessary to stop the loom until the ends have been drawn through the drop-wires. This job usually takes from one-half to several hours. It is to the advantage of both the weaver and the department that as much of this time as possible be saved.

There are several types of stands in use for putting on drop-wires before the warp goes to the loom, but perhaps the simplest one is the frame of a loom. Such a frame permits the drop-wires to be placed and the warp to be tied in in much the same manner as they would be at the loom.

Some type of truck is required to store the warp and to transport it to the weave room. In making this truck, it is well to design the beam holder so that the beam is supported at approximately the same height as it will be in the loom in order to reduce lifting and handling the beam. The drop-wire rods should be fastened together, preferably by something resembling the drop-wire brackets on the loom.

Hooks on the truck would suffice to

## TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

*"For the tenth time this week, O'Toole, I don't give a * — * how they did it in Iran!"*

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hold the drop-wire rods and the drop-wires in a position to prevent tangling of the ends and to keep the drop-wires separated. Harnesses must also be held securely in such a manner as to prevent them falling and tangling with the drop-wires. *(R-349)*

## Wrong Type of Quill Should Not Be Used

An unsound practice that I often see in mills is that of running improper filling quills in looms. For instance, I have seen quills from S-3 looms run in the shuttles of S-5 looms and wooden quills from plain looms run on S-3 looms.

If a quill does not hold securely on the shuttle spindle but moves forward or to one side, it will touch or even scrape against the shuttle. Often the top of the quill is cut and the wood splintered so that it breaks filaments or picks. Such a quill must be thrown away.

It is important that quills fit tightly and lie straight on the spindle. If it should become necessary to run an incorrect type of quill in a shuttle, the loomfixer should be very careful to adjust the spindle so that it is not strained but holds the quill tightly and straight. *(R-370)*

## Overseers' Office Hours Not a Good Practice

Some time ago, Pete and Bill were discussing the policy of office hours for overseers, and I think that there is still something to be said about it.

Department heads in some organizations have tried to set definite time schedules for such things as salesmen's calls and personnel interviews. To my knowledge, it has never been particularly successful. When the first-line supervisors of an organization start to go "high hat," the trouble begins. It may be well for the president of a mill to establish office hours; but for an overseer or a foreman, the practice is certainly a mistake.

In the first place, the employees cannot understand why they must wait until tomorrow to discuss a vital question just because the boss decided to hold office hours from nine to ten o'clock each morning. They feel that their overseer is a high-hat guy and that one has to have an appointment to see him.

In the second place, a salesman should never be sent away without some sort of interview with the person he came to see. Perhaps an

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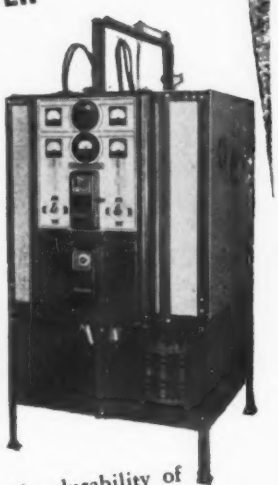
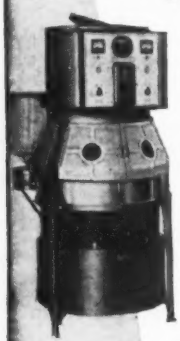
## ATLAS *twin arc* WEATHER-OMETER



Faithfully duplicates the combined weathering effects of sunlight, rain, heavy dew and thermal shock; accelerated to reduce years of actual weathering to a few days of testing.

The new Twin-Arc Weather-Ometer is equipped to take large size textile specimens in order to meet the new Federal Specifications demanding accelerated weathering tests. Full automatic control of light and water periods is provided by the Atlas cycle timer unit which can be set to meet standard and special requirements of weathering tests. A direct reading thermal regulator, automatic shut-off switch and a running time meter are included as standard equipment. After setting exposure cycles on the control panel the Weather-Ometer can be safely left in continuous operation overnight without attention except to replace carbons once in 24 hours.

The Atlas Weather-Ometer proves the durability of materials under exact conditions of weathering found in actual use in outdoor exposure.



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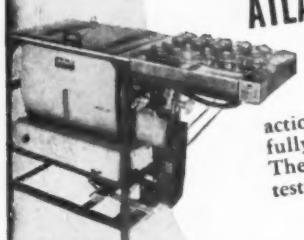

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overseer has time to talk with him only briefly on the phone, but at least he can show him that courtesy. The overseer does not need to spend hours with a salesman, but he should not cause resentment.

A competent department head will plan his other duties and attempt to adhere to a schedule, but he will always keep the schedule flexible enough to permit him to see a salesman or an employee when the occasion arises. He should remember that he represents the management and the mill to those working under him and to those from the outside with whom he does business. *(R-360)*

## This Formula Calculates Average Denier in a Blend

Finding the average denier of staple rayon in a blend of two or more deniers often gives mill men trouble. For example, the average denier of a blend that contains 50% 3.0 den. and 50% 1.5 den. is not obtained, as is sometimes thought, by adding 3.0 den. and 1.5 den. and dividing by 2. Such a calculation would give an average denier of 2.25.

Actually, in such a blend, assuming uniform staple length, there would have to be two fibers of 1.5 den. to each one of 3.0 den. in order to equalize the weight. Expressed another way, in any given weight of the blended stock there will be, theoretically, twice as many fibers of 1.5 den. as of 3.0 den. Therefore, the calculation would be 1.5 + 1.5 + 3.0 = 6.0, which must be divided by 3. The average denier of the blend would be 2.0.

One way of expressing the required formula for determining the average denier of a blend would be:

$$\frac{\%}{\text{den.}} + \frac{\%}{\text{den.}} + \ldots = \frac{100\%}{\text{average den.}}$$

For example, in a rayon blend of:

50% 1.5-den. viscose
25% 3.0-den. viscose
25% 3.0-den. acetate,

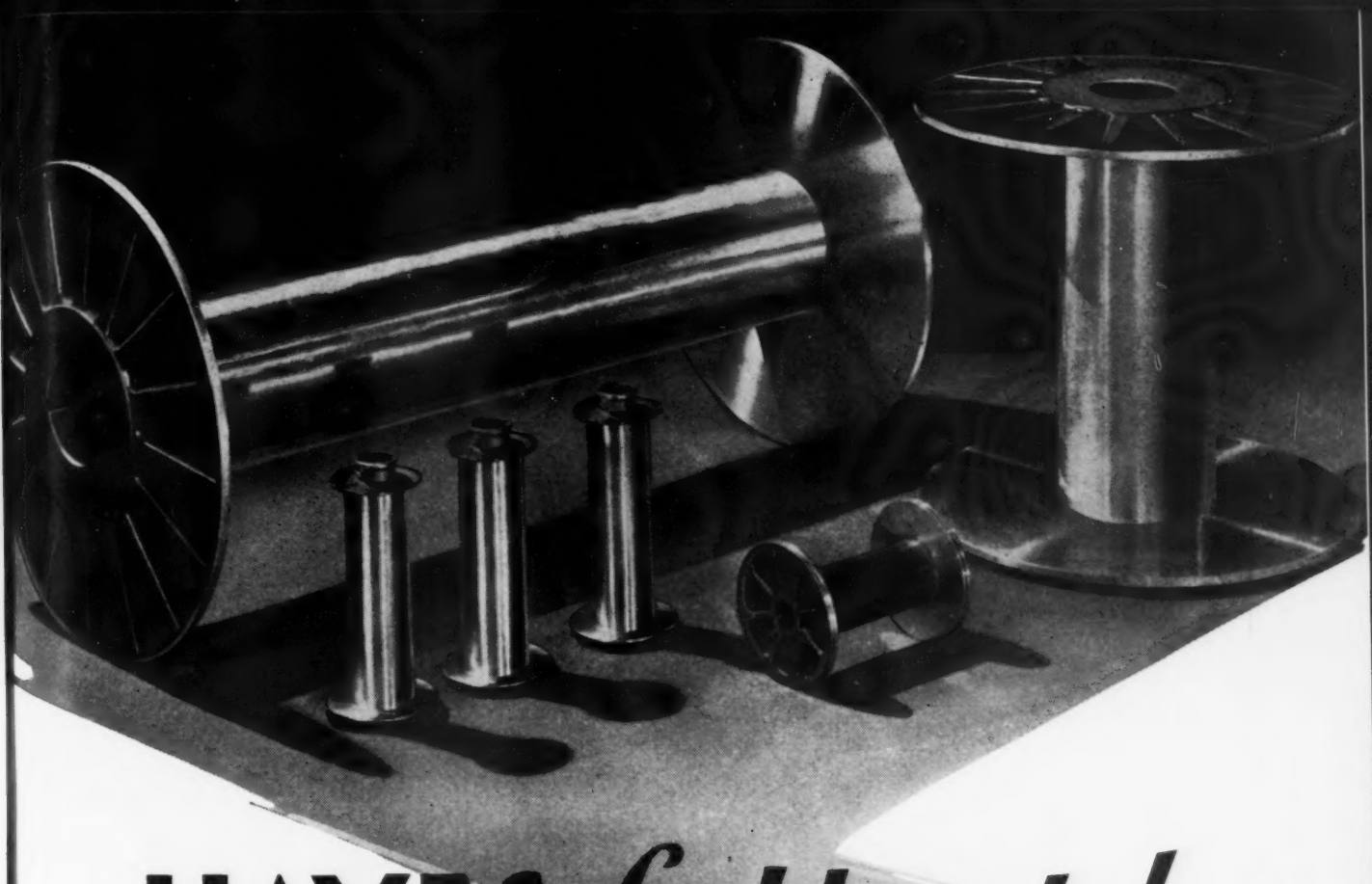
the formula would be as follows:

$$\frac{50}{1.5} + \frac{25}{3.0} + \frac{25}{3.0} =$$

$$\frac{100}{3.0} + \frac{25}{3.0} + \frac{25}{3.0} =$$

$$\frac{150}{3.0} \text{ or } \frac{100.}{2.0}$$

The average denier of the blend is therefore 2.0 den. *(R-368)*



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# Questions AND Answers

## Pattern and Needle Setting May Cause Drop Stitches

Technical Editor:

We are having trouble with cloth defects caused by dropped stitches. Our knitter is of the opinion that the poor knitting is due to bad yarn. We made a complaint to the cotton mill from which we buy the yarn, but the mill claimed that our trouble is not due to the yarn and pointed out that dropped stitches on latch-needle machines can be caused by any of the following conditions:

1. The outside design wheels may be out of time.
2. The yarn may not be properly measured off to insure that it feeds equally from the different cones to the needles.
3. The tuck bar on the wheel may not knock out of position during the clearing action.
4. The machine parts, particularly the sinker slots, may not be sufficiently clean to permit free working of the parts.
5. The sinkers may be worn.

The machines we are using are Supreme 24-in., sinker-top, latch-needle, circular machines. There are 1,104 needles, 14.7 cut, 42 gage; 96-cut pattern wheels. At present, we are using two pattern wheels tucking on the same needle, followed by a blank casting off preceding stitches. Our yarn is 12s carded, raw-stock dyed, sulphur colors. (9197)

It is extremely difficult to determine the reason for damages in a fabric without the benefit of examining a sample of the defective cloth. There are, of course, a number of causes of defects, many of them resulting from improper settings of various parts of the machine.

Assuming that the machine has been properly set and that only cotton yarns are being knitted, two of the most common causes of damaged cloth are: (1) an improper pattern and (2) incorrect setting of the stitch.

1. If the machine has been set up on a pattern in which two successive needles are placed in tuck position on one wheel and on the next wheel the same two needles are left in tuck position, it is likely that the strain thus

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The question arose: Should there be one name for all three of these applications . . . or three names, one each for each special function? There were good arguments for either choice.

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|---|---|
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| 2 | **RESLOOM**—Formula W for Washable Woolen |
| 3 | **RESLOOM**—Formula C for Wrinkle-Resistant Cotton |

Resloom, therefore, will mean generally . . . *lasting character and greater performance* to wool, cotton, rayon. And it will mean special properties for each major type of fiber, as indicated. Obviously, in blended fabrics Resloom will improve every part.

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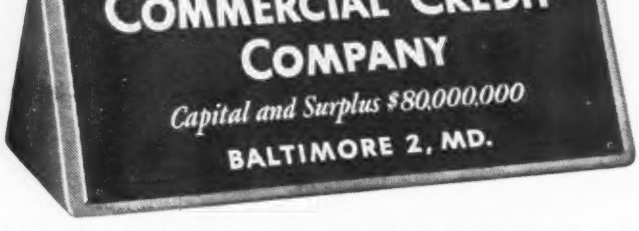


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imposed on cotton yarn will cause it to break.

It is imperative, therefore, that any two successive needles operating in tuck position on one feed should be lifted to latch-clearing position on the succeeding feed. To conform with this necessity, the knitter must check to see that if two successive jacks are eliminated on any one wheel, the next wheel shall have jacks in the slots that operate on these same needles.

2. If the machine is set with wheels operating on some feeds and jersey on the others, the stitch on the feeds with the pattern wheels should be tighter than on the jersey feeds to the extent of one-third of a revolution of the stitch-setting screw. If the stitch on the feeds with pattern wheels is too loose, the additional strain placed on the jersey yarn when it is forced by the pattern wheel to tuck is apt to cause the yarn to break.

To set the stitch properly, the mechanic should turn all tuck bars to jersey position and even the stitch on all feeds. Then, on all feeds where the pattern wheel is to operate, the tuck bars should be turned to their original inoperative position. The stitch on the feeds with pattern wheels should then be tightened by turning the stitch-setting screw one-third of a revolution counterclockwise.

## Positively Charged Rubber Reduces Pilling in Garment

**Technical Editor:**

**As you know, pilling (or the tendency of fibers to ball up in a garment fabric) is a condition that causes producers of both woolen and worsted fabrics considerable worry. I have heard that the British are using rubber latex with a reversed electrical charge to prevent pilling. Do you have any information on this question? (9202)**

The rubber latex with the reversed electrical charge is known as Positex. It was developed by several British research organizations working in collaboration.

Briefly, natural rubber is obtained from a species of tree known as *Hevea Braziliensis*, which originated in Brazil but is now produced also in Ceylon, Malaya, India, and the Dutch East Indies. As obtained from the tree, the emulsified rubber is preserved from bacterial action by a preservative, such as ammonia. The latex rubber at this stage has a negative electrical charge. By the patented process that has been developed, the latex is treated to change its charge to positive.

Positex is made in both vulcanized and unvulcanized grades; but for use on wool, the vulcanized grade would

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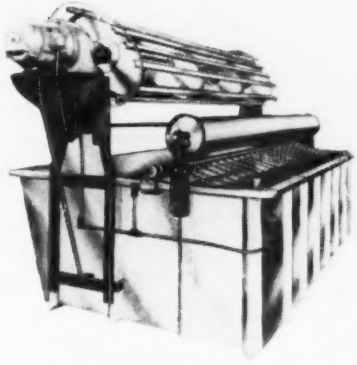

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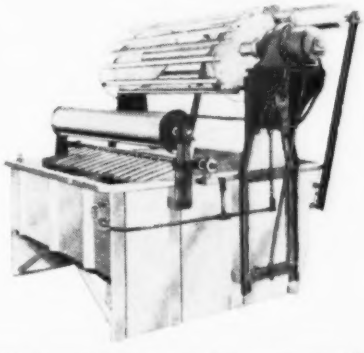

This beck favored by many for economy offered by inclined bottom with drains in front and back.

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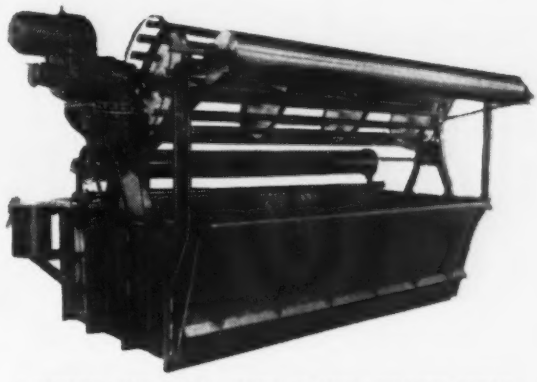

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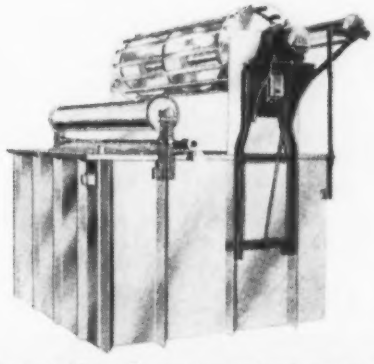

Beck illustrated here for use in dyeing heavier qualities such as woolens, etc., has curved bottom for easy cleaning and uniform processing. Distance from front to back 90" with a depth of 60".

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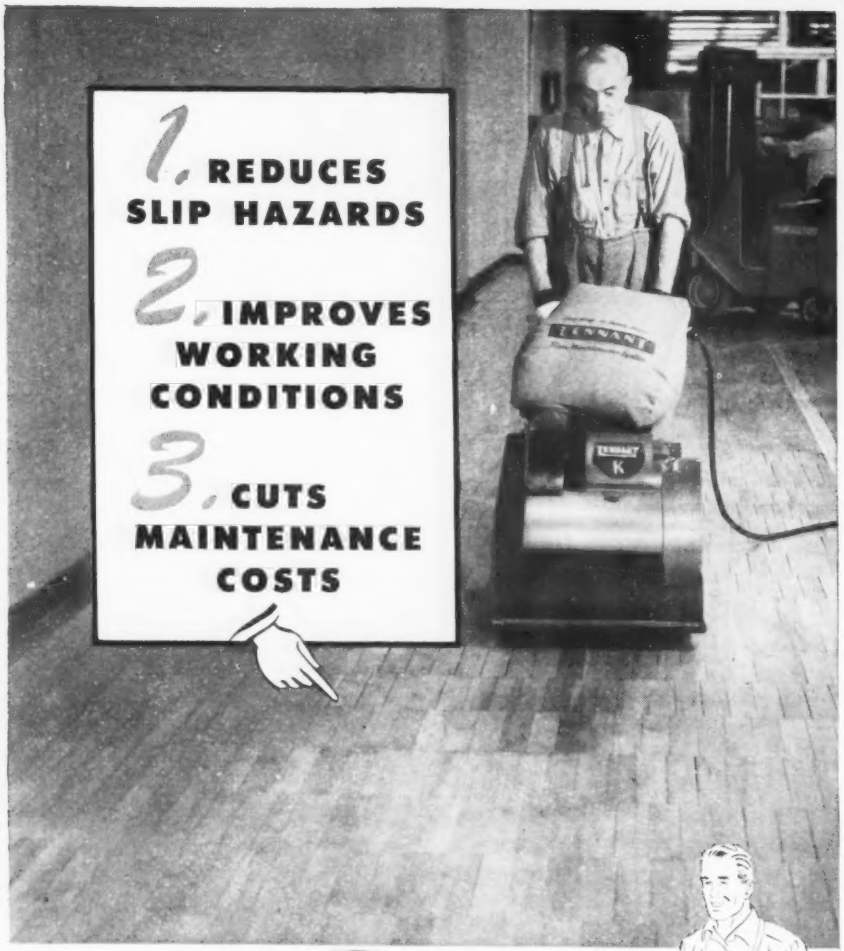


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be necessary. The wool is freed of all traces of oil and grease and given a thorough scour and rinse. The pH of the bath should be maintained between 8.5 and 9.5, since the particles of rubber will not adhere to the wool in an acid solution. Exhaustion up to at least 90% of the bath proceeds at 53 to 63° F. No boiling is required. After the Positex treatment, the yarn is dried without washing. The increase in the weight of the yarn is approximately 7½%.

Since the breaking strength of yarn is increased by the Positex treatment, there is no need to increase the amount of twist in the yarn. Tests run to determine the amount of pilling on rubberized fabrics yielded the following results (in weight in grams of the pills that occurred):

| *Sample No.* | *Untreated* | *Treated* |
|---|---|---|
| 1 | 6.5 (g.) | 3.3 (g.) |
| 2 | 10.7 | 6.6 |
| 3 | 8.6 | 4.8 |
| 4 | 22.2 | 10.9 |

It is reported that the treatment not only reduces pilling but also causes the garment to wear longer. Also, since the required yarn strength can be obtained without excessive twist, the hand of the fabric is softer.

## Jersey-Cloth Finishers Have Trouble With Bow

Technical Editor:

We were considerably interested in the article "Knit-Cloth Dyehouse Thrives on Diversity" in the March issue of TEXTILE WORLD. We operate a knitting mill and should appreciate some information on the following points:

1. We have noticed that special equipment is used to calender striped jersey cloth. We use an ordinary calendering machine; and when cloth is pressed on the machine, it usually takes on a bow. How can we avoid bowing the cloth?

2. Our daily production of cotton jersey goods is approximately 1,200 to 1,500 lb. What should we use for weighting to prevent curling of the goods?

3. What type of quetsch would we need to obtain proper impregnation and to process the amount of goods specified? Our cloth is used mostly for men's sweat shirts and athletic vests. (9199)

1. The elimination of bow is a problem with which all knit-goods finishers are faced. The problem is especially vexing if the goods are finished in tubular form, since the bow is sometimes in one direction on one side of the tube and in the opposite direction on the other side.

Little can be done to correct this condition except to observe care in handling the goods prior to the calendering operation. If a single thickness

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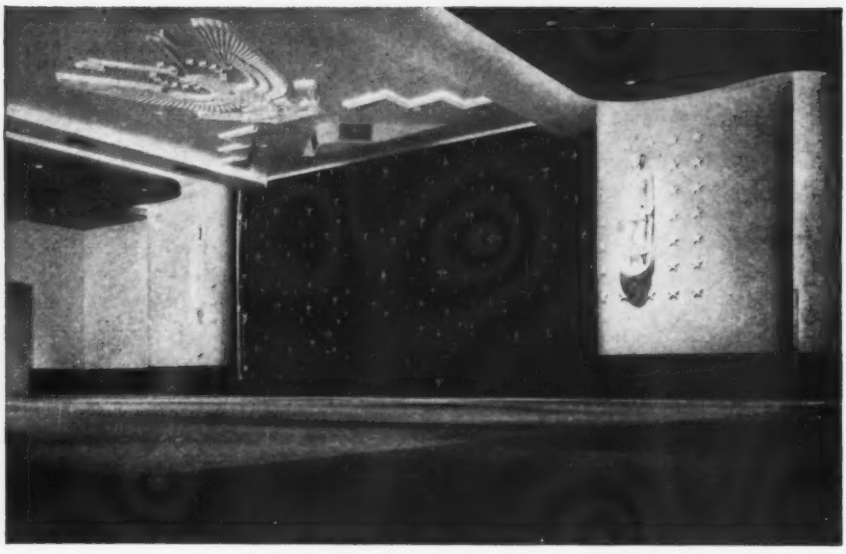

*Cotton Yarns for Draperies*

**PACKAGE DYED BY GLOBE**

•

**Yarns used to weave the starry curtains at the end of the grand ballroom of Hotel Statler in Washington, D. C. were dyed by Globe. The fabric was woven by Moss Rose Mfg. Co. of Philadelphia, Pa.**

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of the cloth has the bowed condition, it is sometimes possible to put expanders on both the entering and delivery sides of the calender in order to equalize tension across the piece, rather than permit tension to act upon the edges of the cloth and leave the center somewhat slack.

By properly arranging these expanders, it is sometimes possible to minimize the bowed condition, especially if the bow is toward the entering end of the piece.

2. In case the cloth is split, a starch paste applied with a brush so that the starch is about $\frac{3}{8}$ in. on either side of the drop stitch will prevent curling of the selvages. Various sugars, mineral salts such as Epsom, and softening agents such as tallows or sulphonated oils can be used for weighting knit goods.

3. The type of quetsch needed is one that consists of two sets of small rolls, the necessary starch tank, and a spreader that operates inside tubular goods to keep them spread to width while the goods are running through the machine. Such a machine can be used for both tubular and split knitted fabrics.

## Mechanical Spinning Slub Gives Linen Appearance

**Technical Editor:**

**I am enclosing a sample of a fabric generally termed "butcher linen." Can you give me the details of blending fibers necessary to produce such a cloth? I should like to know also the best yarn numbers to use, how to reed the warp, and any other information you can provide. (9195)**

The term "butcher linen" is a misnomer and as such has been prohibited by governmental agencies. However, a fabric such as you submitted can be manufactured as follows:

A blended yarn consisting of 50% (by weight) of 3-den., 1 $\frac{5}{8}$-in. dull viscose rayon and 50% 3-den., 1 $\frac{5}{8}$-in. bright viscose rayon is spun into 9s (cotton-count) yarn with a twist multiplier of 3.80. A mechanical slub is inserted at intervals in the yarn to simulate the unevenness of linen yarn. Such a slub can be inserted by using a ratchet device to act upon the back roll of the spinning frame.

One end of the blended-rayon yarn is twisted with 13 t.p.i. with one end of 35s carded-cotton yarn spun with a twist multiplier of 4.50. The resulting two-ply yarn (equivalent in number to 7s single cotton yarn) is thus composed of 80% slubbed 3-den. spun-viscose-rayon yarn, having approximately 22$\frac{1}{2}$ t.p.i., and 20% un-

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slubbed cotton yarn, having approximately 11½ t.p.i.

Since the finished width of the sample is approximately 38 in. and the construction 36 warp ends and 32 filling ends per in., the gray cloth was probably 41 or 42 in. wide. You could reed the warp two ends per dent, 15 dents per in., with a width in reed of about 44 in. Each selvage is composed of eight ends of two-ply yarn, probably 14s. The total number of ends is 1,332, woven 32 square.

## What Are the Qualifications Of Card-Room Cleaners?

**Technical Editor:**

**We are interested in what custom is usually followed in cotton mills for card-room cleaning. Are the cleaning tasks assigned to special cleaners? What are the qualifications of such cleaners as to age, sex, color and degree of intelligence? (9171)**

Mill practice in card-room cleaning is, as in all other phases of mill operation, so diversified that it is impossible to give a short, concise answer to these questions. Roughly, card-room cleaning may be broken down into three basic types of cleaning tasks. These types of tasks and the qualifications usually required by mills of employees performing these duties are:

*Floor cleaners*

Sex—Male or female
Age—18 to 65
Race—White or Colored
Degree of intelligence—The ability to understand and carry out simple instructions.

*Overhead cleaners*

Sex—Male
Age—25 to 55
Race—White (sometimes Colored)
Degree of intelligence—Same as for floor cleaners.

*Machine cleaners*

Sex—Male or female
Age—25 to 50
Race—White (sometimes Colored)
Degree of intelligence—Some understanding of machinery (possibly grammar-school intelligence).

By far the most widely followed practice is to employ floor cleaners (sweepers and scrubbers) with qualifications approximately as given and assign all other cleaning tasks as part of the work load of more skilled jobs. For example, roving-frame tenders—the highest-skilled workers in the card room—usually do all the cleaning of their frames. Overhead cleaning is

(*Continued on page 184*)

# Eriez

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*Eriez Non-Electric Magnetic Humps* have been officially approved by Associated Factory Mutual Fire Insurance Companies. They provide effective magnetic protection against tramp iron in textile opener lines -- as proven by wide use and acceptance by textile mills all over the country. The seal of approval of Associated Factory Mutual (reproduced above) will be placed on each ERIEZ Magnetic Hump that leaves the Eriez Mfg. Co. factory.

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☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines

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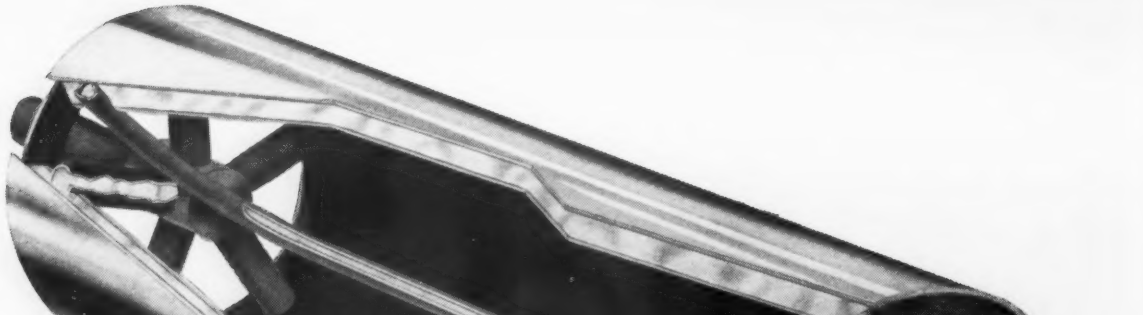

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to increased
production demands

# Lukenweld Jacketed Drier Rolls

(Patents applied for)

"On the job" performance by Lukenweld *Jacketed* Drier Rolls in a wide range of industries proves their ability for faster, more efficient drying. Numerous installations show drying rate stepped up 15 to 25 per cent with no increase in steam pressure. When steam pressures were increased, drying rates were stepped up as much as 50 per cent. *That means increased output* to answer demands for greater production.

The double-shell design and welded steel plate construction of Lukenweld Jacketed Drier Rolls give these advantages: *Greater steam velocity* . . . steam is guided into the restricted area between inner and outer shell, resulting in *vastly improved heat transfer* properties. *Quick, positive condensate removal* . . . removal pipe revolves with the roll, taking out a definite amount of condensate and entrapped air with every revolution. High strength of rolled steel plate permits *safe operation at pressure of 350 psi and higher* . . . provides high dimensional stability.

Get the complete story about Lukenweld Jacketed Drier Rolls. Write for Bulletin 358. Lukenweld, Inc., Division of Lukens Steel Company, 406 Lukens Building, Coatesville, Pa.

***Sizes from 2 feet to 18 feet O. D. and over***

LUKENS
LUKENWELD DIVISION

## LUKENWELD, Inc.

**DRIER ROLLS AND DRYING MACHINERY**

# MANUFACTURERS' BULLETINS

***READERS** may secure copies of literature reviewed on these pages by using the post cards below. Fill out COMPLETELY one coupon for each piece wanted.*

**Free FOR THE ASKING**

1. **Pile fabric knitting** at the rate of 35 yd. per hr. is described in a new bulletin issued by Supreme Knitting Machine Co. on the operating features and versatility of its Model ML machine.

2. **Counting devices** for all applications are illustrated and described in general catalog G-47 of Veeder-Root, Inc. Mechanical information, dimensional drawings, specifications, and optional features for all counters are included.

3. **Corrosion-resisting alloys** for use with any of 155 corrosives may be selected from a guide and chart recently issued by Duriron Co., Inc.

4. **Grease removal** from floors, equipment, walls, windows, and fabrics by Senior, a product of Penetone Co., is discussed in a recent folder and engineering report.

5. **Leather belting,** its efficiency and economy as demonstrated in textile mill applications is the subject of a folder issued by J. E. Rhoads & Sons.

6. **Materials handling** truck selection is discussed in "Look Behind the Price Tag," a booklet issued by Electric Industrial Truck Assn.

7. **"Twists and Winds,"** the new publication of Universal Winding Co. which combines "Getting the Most from Winding" and the former Atwood Machine Co.'s "Atwood Twists" discusses location of Roto-Coner supply, adjustment of tension and pressure, constant-tension weights, twister belts, porcelain-part inspection, and bulging cones.

8. **Multiple reproduction of** forms, cards, and drawings, and other office techniques and short cuts are described in a recent Ozalid booklet.

9. **Adjustable-speed drives** for a.c. circuits on 40 to 200 hp. motors are described in bulletin 311-A of Reliance Engineering Co.

10. **A titrator** for electrometric detection of end-points in titrations involving oxidation and reduction reactions is described in bulletin 204 of Burrell Technical Supply Co.

11. **Pension plans** for aged employees are discussed in a recent publication by Guy S. Burtis.

12. **Remote liquid-level indications** of Yarnall-Waring Co. are shown and described in a new booklet. Application data, typical installations, and installation details are included.

13. **Cloth-laying** machines for screen printing and allied textile processes are listed in catalog sheets available from Spinelli Machine Co.

14. **Variable speed** a.c. drives of Louis Allis Co. are described in bulletin 611C.

15. **Shipment sealing** and other applications of gummed tape are discussed in a booklet issued by Better Packages, Inc. A description of the automatic moistening control is included.

16. **Geon Latex,** its proper handling and storage is fully covered in service bulletin 47-L2 of B. F. Goodrich Chemical Co.

17. **Porcelain enamel signs** for many uses in plants are shown and described in a folder issued by Industrial Products Co.

18. **Flow meters** for use with corrosive materials are listed and engineering data presented in catalog section 32-F available from Fischer & Porter Co.

19. **Woolen machinery,** including scouring, blending, and carding equipment, is described in a catalog issued by Platt Bros. Ltd. A section on leather tape condensers and technical operating data are included.

20. **Decarbonators** for removal of gases and iron from boiler feed water are described in a folder issued by Cochrane Corp.

21. **Corrosion resistant** sinks, strainers, and pipes; their application and installation, are discussed in a booklet available from Duriron Co.

22. **"Special Finishes** for Service, Protection, and Appearance" is the title of U. S. Testing Co. bulletin tabulating seven types of finishes, their trade names, application data, and properties.

23. **Printed labels** for all purposes are shown and described in a catalog issued by Ever Ready Label Corp.

*Instructions for use of post cards on other side*

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**24. Rototrol, Westinghouse Co.** automatic controller for electrical equipment is described in a new booklet B-3649. Operation and application data are included.

**25. The Superlock overseaming machine** and its application to overseaming, overedging, hemming, and serging is discussed in a booklet issued by Willcox & Gibbs Sewing Machine Co.

**26. Zeolite water-softening** equipment, its purpose, application, and operation are fully discussed in manual 4345 issued by Cochrane Corp.

**27. Mercury lamps** as a production tool are described in booklet Y-729 of Lamp Dept., General Electric Co.

**28. A sizing agent** combining a softener, binder, and plasticizer, Houghto-Size CW, is described in a folder issued by E. F. Houghton Co.

**29. Oil-retaining porous-bronze bearings** carried in stock by Bound Brook Oil-Less Bearing Co. are listed in a booklet together with engineering data on application.

**30. An employee manual** which cleverly presents shop rules through cartoons and text is available from MacAllister Publications.

31. **Maintenance of No. 50 winders** is covered in a booklet "Keeping Your 50 Physically Fit," issued by Universal Winding Co.

**32. Ni-Resist, a nickel alloy** manufactured by International Nickel Co., Inc., is described and engineering properties and applications listed in a recently issued booklet.

**33. Centrifugal pumps** of the side suction, single ball-bearing type and their performance data are listed in a booklet published by Deming Co.

**34. Fluorescent color** for application to fabrics is described in a fluorescent-color-coated folder issued by Switzer Bros., Inc.

**35. Welding materials** by International Nickel Co., are listed in a new booklet which includes data on selection and use.

**36. Lithcote, a protective resin coating** and lining for steel and other metals, is described in a recent publication of Lithgow Corp.

**37. Core testing** for determination of wool yield and shrinkage is described in a booklet available from U. S. Testing Co.

**38. Joints for controlling expansion,** vibration, and misalignment in pipe lines having pressures to 300 psi. and temperatures to 900° F. are illustrated and described in a booklet of Chicago Metal Hose Corp.

**39. Fluorescent lights** manufactured by Lustra Corp. of America are described in a recently issued folder.

**40. Insulation and resistance** testers of the "Megger" series are discussed in a booklet available from James G. Biddle Co.

**41. Pyroxylin-coated cloth,** its properties and features, is described in a recent folder issued by Pyroxylin & Resin Coaters Institute.

**42. Floor repairs** by use of Stonfast, a material ready for heavy-duty service immediately after installation, is described in a publication of Stonhard Co.

**43. Plastolac,** a synthetic enamel made by Gillespie Varnish Co. is described and 20 colors shown in a wall panel.

**44. Knitted dress fabric** manufacture by use of Mellor-Bromley SADH/2 machines is described in a recent folder.

**45. Luminous paints,** their use and application, are discussed in a recent issue of *Paint Progress*, publication of New Jersey Zinc Co.

**46. Vapor-steam cleaners** of the portable type and their uses are described in a folder available from White Engineering & Mfg. Co.

**47. Properties of Paraplex** G-25 and G-40 plasticizers and their use in many applications are covered in a booklet issued by Resinous Products & Chemicals Co.

**48. Self-cleaning strainers** for steam, air, gas, or liquid service are listed and described in a booklet of Leslie Co.

**49. Rubbish destructors** made by Plibrico Jointless Firebrick Co. are shown and described in a recent folder.

**50. Sewing machines** adaptable to virtually all phases of the needle trades are listed in a pocket-size catalog, form 769, issued by Willcox & Gibbs Sewing Machine Co.

**51. Pin-drafting machines** of the double-head, intersecting type are presented and features described in a new publication of Warner & Swasey Co.

**52. True north light** for color matching is produced by the Analyte Comparator, described in a folder issued by Analyte Instruments Co.

**53. Plastics made by Du Pont** are listed and described in a recent booklet of E. I. du Pont de Nemours & Co.

**54. Selection of materials - handling equipment** to suit the requirements of any job is discussed in the Fork Lift Truck & Tractor Guide issued by Towmotor Corp.

## TO GET MORE INFORMATION

1. Fill out completely *one space* (name, title, company, address, and item number) *for each* bulletin wanted. Put only one number in each square.

2. Use only bottom card if ordering one to four pieces, both cards if ordering five to eight.

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(Spinning Bobbin) (Take-up Bobbin)

## MORE ABOUT Aluminum BOBBINS

There are definite places in the processing of nylon yarn where aluminum Bobbins are of decided advantage. Properly made from the proper materials, these aluminum Bobbins will not crush or deteriorate under heavy wear. They are more nearly in correct balance and concentricity, capable of high speeds on a Spinning Bobbin, and, of course, permit of steaming the yarn without deteriorating the Bobbin.

These aluminum Bobbins are just as easy to keep in condition for maximum production as similar Bobbins made from any other material. If, by accident, the aluminum gets slightly nicked or roughened, it is easier eliminated with steel wool than such roughness in any other type of Bobbin. Cutting the yarn off the barrel damages the Bobbin less, and is easier smoothed than most other materials.

These Bobbins may be anodized if desired, but the present alloys of aluminum used for such Bobbins have been generally found to cause no injurious stains or effects to the finest materials.

Our representatives will be glad to discuss these materials with you if you are interested.

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# NYLON BRISTLE

# JENKINS METLKOR

## FURNISHER BRUSHES RECOMMENDED FOR ARIDYE PIGMENT PRINTING

The sales manager of Interchemical Corporation — Textile Colors Division — manufacturers of Aridye pigment colors for textile printing, approves and recommends nylon bristle brushes for use in textile printing, as follows:

*"Frankly, we consider brushes with nylon bristles are the best brushes with which to apply pigment colors to print rollers.*

*"Time and again we have seen the superior results they produce."*

## JENKINS' "METLKOR"* FURNISHERS

have cores of aluminum with stainless steel shafts.

Nylon bristle is wound on the cores with flat copper wire and set in plastic cement by a patented process. Easy to clean and keep clean.

The long-lived nylon bristle when worn is renewable.

* *Trademark Reg. Pending*

*Write for catalog.*

## M. W. JENKINS' SONS, INC.

*Manufacturers of Industrial Brushes Since 1877*

CEDAR GROVE, ESSEX COUNTY, NEW JERSEY




usually divided among oilers, fixers, and machine-shop men.

However, job specilization is becoming more widespread; and more cleaners are being employed. On fly frames, for instance, rolls are being picked by a cleaner with a mechanical roll picker and cleaned with brush attached to a mechanical tool. In some instances, bolsters and spindles are also cleaned with mechanical hand tools. For these tasks, cleaners with qualifications approximately as listed for "Machine cleaners" are used.

### Cleanliness Is Essential In Knitting Dyed Nylon

**Technical Editor:**

**We have on hand some dyed nylon yarn and propose to knit it into hose on circular knitting machines. Can you advise us how to handle this for knitting? (9200)**

It is more or less a novelty to attempt to knit hosiery from dyed nylon yarn, although a few years ago a considerable amount of dyed silk was used.

Most seamless-hosiery knitting mills are knitting nylon dry, and you very likely should follow this practice. Especial care should be taken to keep the machine clean and to prevent oil stains from getting on the yarn. A good grade of stainless oil should be used for lubricating the needles.

Since the usual practice in skein dyeing is to heat the yarn only to a temperature of 160 to 170° F., you will find it necessary to preboard the stockings. While 160° F. will cause the yarn to shrink somewhat, it is not enough heat to set the yarn sufficiently to stabilize the stitches after they are knitted.

After the dry-knitting operation, you should preboard the stockings under a steam pressure of about 24 lb., with a temperature of 240 to 250° F., for a period of 2½ min. This heat should be used for 20, 30, or 40-den. nylon yarn. Finer-denier yarn would require a much lower temperature.

After this preboarding process, run the hose in the dye tub in clear, warm water, extract them, and put them through the final boarding.

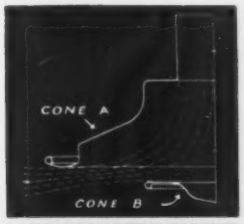
If you have preboarding forms as wide as your final boards, the preboarding could be done under dry-heat conditions and the final boarding eliminated. This method, known as the Dunn system, is being used in some mills with satisfactory results.

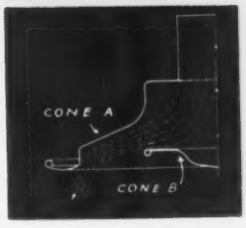
The importance of cleanliness cannot be stressed too much. Since the yarn has already been dyed, the hose cannot be subjected to sufficient wet processing to remove damage from oil, soiled hands, etc.

# American Viscose steps up efficiency with adjustable air diffusers

**Kno-Draft Adjustable Diffusers mounted on exposed ducts distribute conditioned air in the American Viscose Corporation rayon plant at Front Royal, Virginia. The diffusers can be adjusted to satisfy the cooling requirement of a particular area and maintain even temperature and humidity throughout. In certain cases, such as spinning rooms, they can be adjusted to blanket the source of heat generation. In either case, no drafts occur and no threads are blown because the air flow is directed upwards and thoroughly diffused.**

*Photo courtesy of American Viscose Corporation*





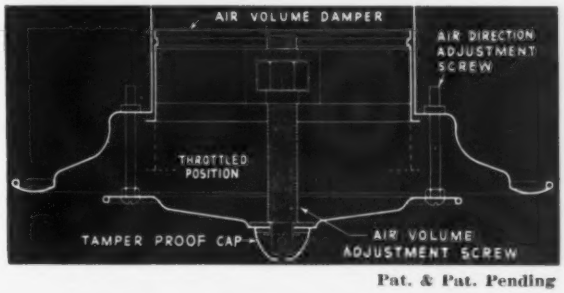

***Kno-Draft Adjustable Diffusers enable engineers to overcome air distribution problems brought about by modern, high-speed production in textile mills.***

With air direction and volume control on each diffuser, engineers are able to control air flow direction and volume to suit individual plant and machinery setups. These features eliminate drafts and dead air pockets, thoroughly mix room and supply air and maintain even temperatures and humidity throughout. In addition, Kno-Draft's simplicity of construction facilitates cleaning from below without the necessity of disassembly.

As a result, plants like that of American Viscose Corp. at Front Royal, Virginia, are getting the maximum benefit from their air conditioning in terms of improved product quality, less rejects, and higher worker efficiency and morale.

Free handbook: contains sketches, charts, dimension prints and instructive text that simplifies the selection and installation of air diffusers. For your copy, please write Textile Division, W. B. Connor Engineering Corp.

***Here's how Kno-Draft controls air patterns.*** **Above:** Raising or lowering bottom cone "B" affords any angle of air discharge from vertical to horizontal needed to accommodate ceiling heights or other individual plant requirements. Below: Sleeve-type, volume damper regulates outlet aperture uniformly. At constant static pressure, neither outlet velocity nor diffusion pattern is affected.

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# ONYX IONICS

*Newsworthy items for textile technologists and production men*

October, 1947

## For a Durable Crush-Proof Finish on all Types of Rayon and Cellulose Fabrics

Onyx NCF Paste is a urea-formaldehyde condensation product with a broad range of usefulness in treating all types of cellulose fabrics. Used principally for crush-proofing, NCF Paste also provides interesting variations in "springy" hands. It can be most effectively used to reduce shrinkage in spun rayon fabrics. Another interesting application is for insolubilizing certain protein finishes for fabrics. All these effects are *durable*. NCF Paste is usually applied in the mangle or padder. The fabric should be fully impregnated with the NCF solution at recommended concentration, and then squeezed between the rolls to obtain a retention by weight of from 75 to 100% on the weight of the goods.

In providing crush resistance where a high concentration is used, pressure on the pad or mangle should be from 3-5 tons, in order to insure proper penetration and to prevent too high a concentration of surface deposits.

After drying on the tenter frame or in the dry box, goods are cured by a 3-5 minute bake at 310-325° F.

For complete data on NCF Paste, write for Technical Bulletin 8-T.

### NEW DEVELOPMENTS

*For Further Details Write Onyx*

***Need an Auxiliary Detergent to Combat Hard Water?*** Investigate Neutronyx 330—the ***non-ionic*** surface-active agent with outstanding emulsifying, dispersing and detergent characteristics. No. 63

•

***For Dull, Soft Shades on Light and Medium Colors*** Onyx Dullatone CA is particularly effective. This cation-active dispersible titanium dioxide is highly valuable in dulling and softening all types of rayon, acetate and nylon piece goods. No. 64

•

***Eternalure – the Dependable Finish for Nylons***—imparts snag resistance and body while tightening and clarifying the stitch. Easy to use without changes in equipment and operations. Eternalure insures easy handling after boarding and materially reduces pull threads. No. 65

•

***Durable, Low Cost Water Repellency*** on Rayon-Cotton, Acetate-Cotton and many all Rayon and Acetate constructions is insured by the use of Repel-O-Tex D3 and D4. These complementary materials also provide effective repellency of considerable durability on other textiles. No. 66

•

***Dry Cleaning and Laundry-Resistant Moth Proofing*** is obtained by using cation-active quaternaries Imulary P (used in water solution) or Imulary S (used in organic solvents. No. 67

### For Permanency in Softening . . . Onyxsan LG

Onyxsan LG is distinctive in the durability of the finish it imparts in the unusually smooth, "drapey" hand it provides. Cationic softening with Onyxsan LG gives you a *permanent* effect on all types of cotton, rayon, acetate and bemberg textiles. It also gives hand of excellent pliability and desirable durability to aralac, silk, wool and mixed constructions of these fibers.

The finish Onyxsan LG produces is due to properties produced within the yarn. It is substantive to textile fibers, acting like a dyestuff and making itself a part of the fiber.

Easy to apply in print washer, jig, dye beck, quetsch or starch mangle, Onyxsan LG requires very small quantities to produce its characteristic effects. For complete data, write for Technical Bulletin 9-T.

### A Much Superior Sulfonated Tallow

Onyx Stearo Glyceryl Sulfate N has a much higher $SO_3$ content than ordinary sulfonated tallows. It has a much greater resistance to hard water and electrolytes. It is also much more readily soluble. Widely used as a lubricant and softening agent, Stearo Glyceryl Sulfate N offers outstanding resistance to yellowing and rancidity in treated fabrics.

If you are interested in improved softening and plasticizing effects on cotton or rayon, warp size lubrication, protective action against alkali damage or improved body and finish, write for Technical Bulletin 12-T.

onyx

**Onyx Oil & Chemical Company**

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*For Export: Onyx International Jersey City 2, N. J.*

## "Monofilizing"

(*Continued from page 115*)

tension. The two places where such gains occur are at the point where the ends hit the sizing bath between the unsized warp and the quetsch rolls. The second place is between the quetsch rolls and the first drum.

**STRETCH.** Conventional viscose rayon can be comfortably slashed with a gain averaging in the neighborhood of 6%. Greater gains can be realized; however, the size of the yarn is made to suffer accordingly, and the dyeing properties and usefulness of the fabric are penalized. Acetate rayon of the conventional type should be held to a gain of 3 to 4%. Low-twist acetates will be found much more difficult to hold within such a limit and will yield up to 6 to 7%.

Viscose rayon, when spun to embody a certain amount of stretch, will be found to yield much less in slashing. In fact, the amount of stretch may be such as to preclude further yield during that operation.

It is inadvisable to believe that a yardage gain obtained through excessive stretching constitutes a tangible profit, for the lower weaving efficiency of such a warp places on the weaver an additional economic burden which more than off-sets the yardage gain and leaves nothing but low grade merchandise to dispose of. Undue stretch, therefore may well be considered as slashing pitfall No. 1. Extreme heat comes as a close second. Excessive heat, sometimes adopted for the sake of greater production, penalizes both the weaving efficiency and the finished cloth. A "baked" or "burnt" warp has lost most of its extensibility, weaves badly, and the cloth made from it is sure to dye streaky.

**TEMPERATURES.** Continuous-filament viscose rayon and spun rayon will stand up to 220° F., acetate rayon 200° F. These are top figures bordering the danger line with present production. It is evident that in carrying 240° F., the slashing speed can be increased; but tests show that the yarn suffers appreciably in its dyeing affinity.

It is customary to have the first and the last cylinders of the slasher held at a lower temperature than the others. The thought in having the first drum on the low side is to avoid setting the size too rapidly, to minimize the transition, and to insure a more gradual drying. The last drum is also kept low to allow the warp to cool somewhat before being beamed.

Rayon should be dried to about

# KOHORN

## Installation of Filament Rayon and Staple Fiber Plants

The world's oldest and most experienced organization of rayon engineers and rayon machinery builders.

***Pioneers of the Rayon Industry***

## OSCAR KOHORN & CO., LTD.

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*Serving* **the entire Textile Industry**

*New* TEXTILES,

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...*New* TESTS

SINCE ITS FOUNDING in 1880, the United States Testing Company, Inc. has served the entire textile industry.

Whenever technological gains have been made, we have expanded our testing facilities to furnish facts regarding the worth and serviceability of the new achievements.

In the past we pioneered the development of the Gas Fading Chamber for Acetates, the Warmth Tester, the Coolness Tester; helped bring the Flammability Tester to perfection; and engineered new testing equipment to solve textile problems as they arise.

Today this progressive program goes steadily forward. And we will welcome an opportunity to demonstrate our new equipment in operation at our Hoboken Laboratories. Manufacturers and Processers are cordially invited, not only to visit us, but to bring or submit samples of new materials which have been perfected or are in the process of development.

The Following Literature Available on Request:

- *Testing in Modern Industry*
- *Wool Grade Cards*
- *Testing Price List*
- *Core Testing for Determination of Wool Yield and Shrinkage*
- *Standard Textile Regains*
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**UNITED STATES TESTING COMPANY, INC.**

HOBOKEN NEW JERSEY

PHILADELPHIA, PA. • BOSTON, MASS. • WOONSOCKET, R. I. • CHICAGO, ILL. • NEW YORK, N. Y. • LOS ANGELES, CAL.


10% moisture regain. Dehydrated yarns will remain brittle and will dye poorly.

**SIZING MATERIALS.** The subject of warp-sizing ingredients and of their merits is so vast and so controversial; opinions depend so greatly on results affected by local conditions, types of fabrics, and innumerable other variables that the subject can be treated here only in its broader aspects.

Quite a few years back, rayon weavers worked under the assumption that rayon could be slashed like cotton. They soon found themselves involved in costly mistakes and realized that the approach had to be different. Different, insofar as rayon could not accept the sizes applied to cotton. Different, because the usefulness of sizing ingredients applied onto rayon ceases with the weaving, as they then must be removed from the cloth; hence, it is desirable to size just well enough for the yarn to go through the loom, and to minimize the task of the dyer who has to remove it. Different, because, contrary to some of the cotton practices, the size ingredients must be fully removed from the rayon fabrics.

Starches providing excellent cotton-warp sizes are not acceptable for rayon. The kier boil which they demand for removal is injurious to rayon, so that it is necessary to keep away from starches and to look for different types of sizes more in keeping with the properties of rayon.

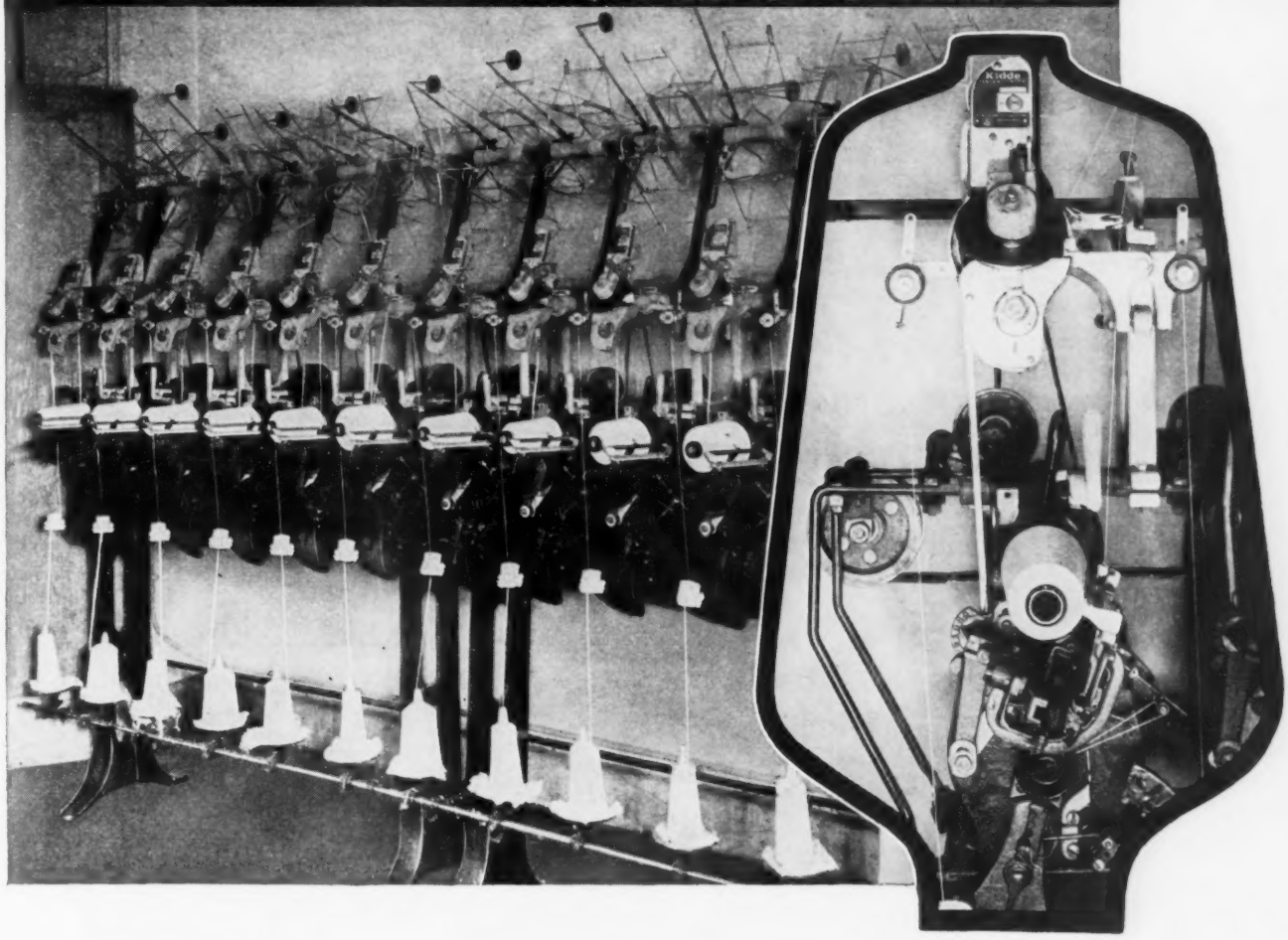
Proteins have been among the most interesting, gelatin having considerable lead over the others in its application on continuous-filament viscose rayon and acetate rayon. (Spun rayon does not respond well to gelatin unless a very large percentage—30%—of sulphonated oil is introduced in the formulation.)

Sizing formulas are to be devised according to the type of yarn and construction to be woven. Rather than to introduce specific formulas, the table on page 115 is presented to illustrate the general balance existing between water and sizing ingredients (excluding softeners) and the larger size requirements demanded by spun yarns as against continuous-filament rayon.

**PROPERTIES NEEDED.** The practical properties of rayon sizing ingredients are broadly covered in the following:

**Cohesion.** The role of a warp size is to protect the yarn from abrasion in the process of weaving; and it is essential that whatever ingredients are applied possess sufficient affinity for the warp ends to adhere to them, to provide a coating, and to bring about whatever cohesion is necessary to pre-

# PACKAGING RUBBER OR ELASTIC YARNS?




## Here's the way to wind *better* cones *faster*!

Put the *Kidde* Tension and Density Control on your Universal 50's . . . you'll increase your output of rubber cones—and their quality too!

Equally effective on raw or covered rubber yarns, the *Kidde* Control speeds up production by permitting winding from skein to cone in a single operation. Time and expense of rewinding are eliminated. Yarn breakage is reduced. Winding speeds can often be increased.

Cones are uniform throughout, in tension and density, have fewer knots. Stretch can be held as low as 10% on the cone!

The uniform tension and low stretch of *Kidde*-wound cones permit knitters to produce flat, smooth fabrics, with fewer seconds—and with less down-time caused by press-offs.

Investigate the *Kidde* Tension and Density Control for winding better cones faster.

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*The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.*

**Mail the coupon for further information on winding rubber and elastic yarns with the**

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1091 Main Street, Belleville 9, N. J.

*Gentlemen:*

Please send me further information on the Kidde Tension and Density Control for winding rubber and elastic yarns.

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Company.....

Street Address.....

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**Walter Kidde & Company, Inc., 1091 Main Street, Belleville 9, N. J.**

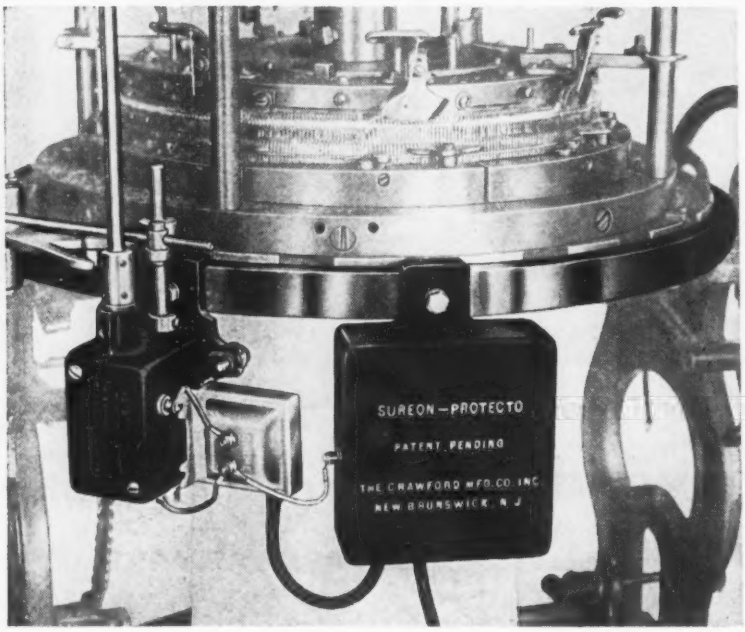
NO MORE

SMASH-UPS!

PROTECT

*Your machines with Crawford's Sure-Stop*

**SUREON-PROTECTO BOX**




**As a user of Electric Stopmotions on your knitting machines, you have undoubtedly noticed that the knitting machine continues to run when the current supplying the stopmotion is discontinued. For full protection, the machine should be stopped.**

**The CRAWFORD SUREON-PROTECTO BOX has been designed to protect the knitting machine when the current goes off. If a fuse blows on the lighting line, or if the plug which is attached to the stopmotion is accidentally pulled out of the socket, the Sureon-Protecto Box will instantaneously and automatically stop the knitting machine. This prevents serious smash-ups. This box can easily be attached to Electric Stopmotions already in your mill, and may be ordered when placing new orders for stopmotions directly with us or with the machine builders.**

***Designed and manufactured by***

**The CRAWFORD MFG. CO., INC.**

**NEW BRUNSWICK, N. J.** **Tel.: 2-0603**

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**ALBERT R. BREEN**
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***PENNA. REPRESENTATIVE***
**JACK FORSTADT**
**623 Drexel Building**
**Philadelphia, Penna.**
**Tel.: BELL: Lombard 5663**
**Keystone: Main 3956**


vent single filaments from being left to themselves.

**Flexibility.** The addition of sizing ingredients should not unduly stiffen the yarn, for lack of sufficient flexibility will translate itself into undesirable fabric.

**Application and Removability.** Whatever product is chosen should be easy to apply; its full removal simple and certain. The application may be carried out with the aid of a solvent or water or any other carrier. Removability should be possible using warm water or, if necessary, a conventional scouring bath.

**Chemical Reactions.** The product should be harmless insofar as not affecting either the physical quality or the chemical properties of the yarn. It should also be fairly mildew-resistant, should not oxidize, and should not become rancid either when stored as material or when applied to yarn.

## Hot Air Slasher

(*Continued from page 133*)

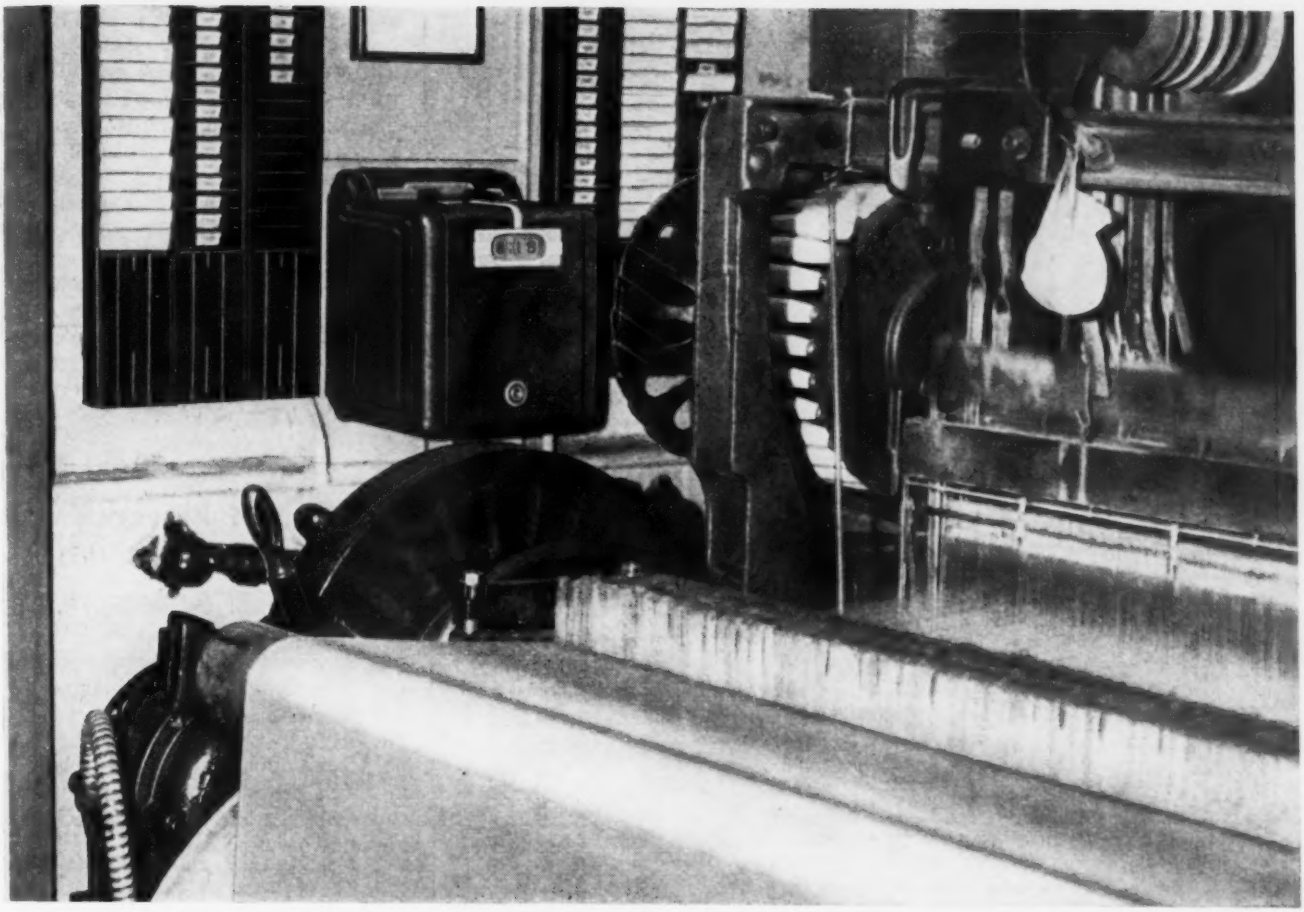
26s, 30s, and 40s 2-ply on section beams which can be switched from conventional to hot-air slasher at will.

**YARN IS WET.** Since all the yarn is "wet work" direct from the dyehouse, it is advisable to use a preheater ahead of the size box. For this purpose, a smaller oven, similar in design and arrangement to the slasher oven, is installed.

With a heat-input range of from 100,000 minimum to 1,800,000 maximum Btu. per hour, the temperature is automatically controlled; and speed and temperature are both varied in the interest of thorough drying and maximum production.

The automatic heat and the speed control are accomplished by means of a Barber-Colman moisture controller which gives any desired regain within reason. There have been no complaints from the weave room on these beams. This variation in drying rate can be accomplished either by control of speed at constant temperature, or control of temperature at constant speed; the machine in this respect possesses considerable versatility.

**HEAT ECONOMY.** Heat is obtained from the combustion of natural gas in the heating chamber. This gas is premixed with air, and combustion is so nearly complete that the yarn is not affected by contact. This arrangement gives high efficiency and heat economy. Air in the oven is recirculated, but an



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## Accurate Mill Time Records

Accurate, legible time records of every mill operation are increasingly important to both employers and employees for preparation of correct payrolls and cost analyses.

By means of IBM Attendance Time and Job Cost Recorders, each employee automatically records his own attendance time and production time spent on operations.

Attendance Time and Job Cost Recorders may be operated individually or by a Master Time Control that synchronizes all timing equipment throughout an entire mill. IBM Electric Time Systems coordinate all Indicating Clocks, Attendance Time Recorders, Job Cost Recorders, bells, horns, buzzers, and sirens.

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# FIGURE 2228 LUNKENHEIMER NEW 200 LB. BRONZE UNION BONNET GATE VALVE

## BUILT TO LUNKENHEIMER STANDARDS . . . FOR BETTER SERVICE!

**DESIGNED WITH FULL CYLINDRICAL BODY SECTIONS** to provide maximum resistance against distortion of the valve body and seats due to pipe line stresses and internal pressure strains. Exhaustive tests made under conditions far more severe than those encountered in actual service clearly demonstrate that this design will not distort and will maintain initial proportions and seat tightness.

All parts are heavy and rugged and of the finest materials to insure ample factors of safey against pressure, temperature and operating strains.

Send for descriptive circular No. 534.

### NOTE THESE FEATURES

***Malleable Iron Handwheel***—Non-heat, easy, comfortable grip.

***Rising Stem***—Made of a distinctive silicon bronze alloy, developed and patented by Lunkenheimer. Remarkably wear-resistant, eliminates stem-thread failures. Exceptionally heavy stem head.

***Hexagon Head Gland***—Permits use of a wrench to loosen gland. Facilitates repacking.

***Stuffing Box***—Large and deep. Long thread provides solid engagement with packing nut to form a tight joint when fully packed.

***Repacking Seats***—Repackable under pressure when wide open. Repacking seats above stem thread, perfectly machined.

***Bonnet***—Union bonnet 2 in. and smaller; bolted bonnet 2½ in. and 3 in. Both provide a strong tight joint; easily disassembled.

***Body***—Made of high grade bronze which meets the A.S.T.M. Specification B 61. Heavy, rugged proportions and straight through full flow areas.

***Double Wedge Disc***—Nickel alloy, ball and socket bearing; no internal wedge or pin. Discs readily adjust themselves to taper seats, insuring a tight valve.

***Stay-On Discs***—Will not drop off stem when assembling valve. Bevelled disc wing guides and body channels make assembly easy.

**PHONE YOUR LUNKENHEIMER DISTRIBUTOR**

Fig. 2228 valves and companion valves are available through your Lunkenheimer Distributor. Call on him for prompt service and the best in valves . . . Lunkenheimer.

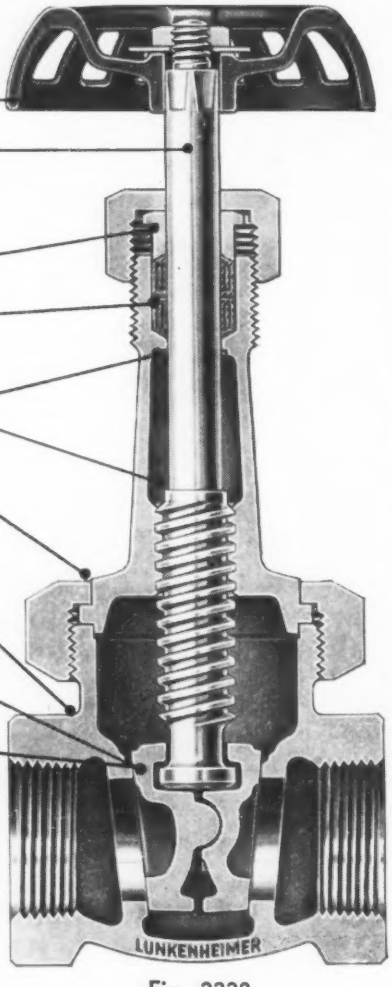


Fig. 2228

ESTABLISHED 1862

**THE LUNKENHEIMER CO.**

"QUALITY"

**CINCINNATI 14, OHIO, U. S. A.**

NEW YORK 13, CHICAGO 6, BOSTON 10, PHILADELPHIA 34, EXPORT DEPT. 318-322 HUDSON ST., NEW YORK 13, N. Y.


adjustable exhaust port is part of the system. The entire layout is provided with every reasonable safety contrivance, approved by the Factory Mutual Insurance Companies' engineers. When the doors are opened or when the slasher is operated at "creeping" speed, the burners automatically cut off.

There is no question about obtaining an improved operation which produces a round, not flattened yarn. The finish of the sized yarn is improved because the yarn dries as a single strand and not in sheets; and tension can definitely be controlled.

---

## TRIangle of Research

(*Continued from page 105*)

Current institute research in the moisture field includes tests of electric moisture meters and comparison of moisture determination obtained by the Karl Fischer method with atmospheric and vacuum-drying ovens. A positive evaluation of the electric moisture meter and an improvement and simplification of the Karl Fischer method are indicated as probable when this work is completed.

**DRYING RESEARCH.** A research project carried out in laboratories rented from Princeton University is on infrared drying. While the final reports have not yet been presented, the research showed that drying by infrared created no new physical factors other than increased speed due to the higher temperatures not present in drying by steam heat. The conclusions limit the use of infrared drying by infrared lamps to a few special applications, largely of a booster type, because the very high cost of the electrical energy shows no offsetting savings or advantages to compensate. An engineering study is now being made by the institute on possible use of gas-fired infrared drying.

Studies of the mechanical properties of fibers have been in progress for several years. These produced Dr. Eyring's spring-and-dash-pot model which reproduced the behavior of a number of fibers under strain and relaxation. Some complex fibers, like wool, could not be completely represented by this simple mechanical model; and the continued study has developed an energy barrier concept through which the stress-strain diagram of wool is accurately reproduced through formulas derived from this theory. This work is creating a new tool for the physical chemist in studying the molecular structure of textile fibers. It is also yielding basic information which

# Let's discuss your Spinning!

Consider the advantages of the Aluminum Adapter on your present spindles together with the newly developed ALUMINUM warp spinning bobbin.

**SAVE ON–**
doffing and spooling costs with more yarn per bobbin

**IMPROVE YOUR SPINNING–** with this durable precision aluminum bobbin and its plastic insert for top drive spinning—eliminate vibrations and reduce ends downs.

*Illustration shows the larger warp package produced by paper-tube spinning on the Joanna Aluminum Spindle Adapter compared with the conventional package.*

**ALUMINUM BOBBIN...**
*with Plastic Top Insert*

**Get Ready Now for those Competitive Days Ahead—with Better Spinning!**

With our aluminum spindle adapter made to your individual specifications your spindles can be converted for *better* spinning with either straight or tapered bobbins.

Our price includes the complete reworking of your spindle to assure you of proper concentricity and balance. Moreover, the bobbins will be driven correctly—from the top.

You will get up to 40% more yarn on each bobbin and the annual savings secured through this conversion should amount to a 30% return on your investment.

*We invite you to try this conversion on one frame only so that you will have a comparison in your own mill and can check the improved results.*

JOANNA ALUMINUM SPINDLE ADAPTER
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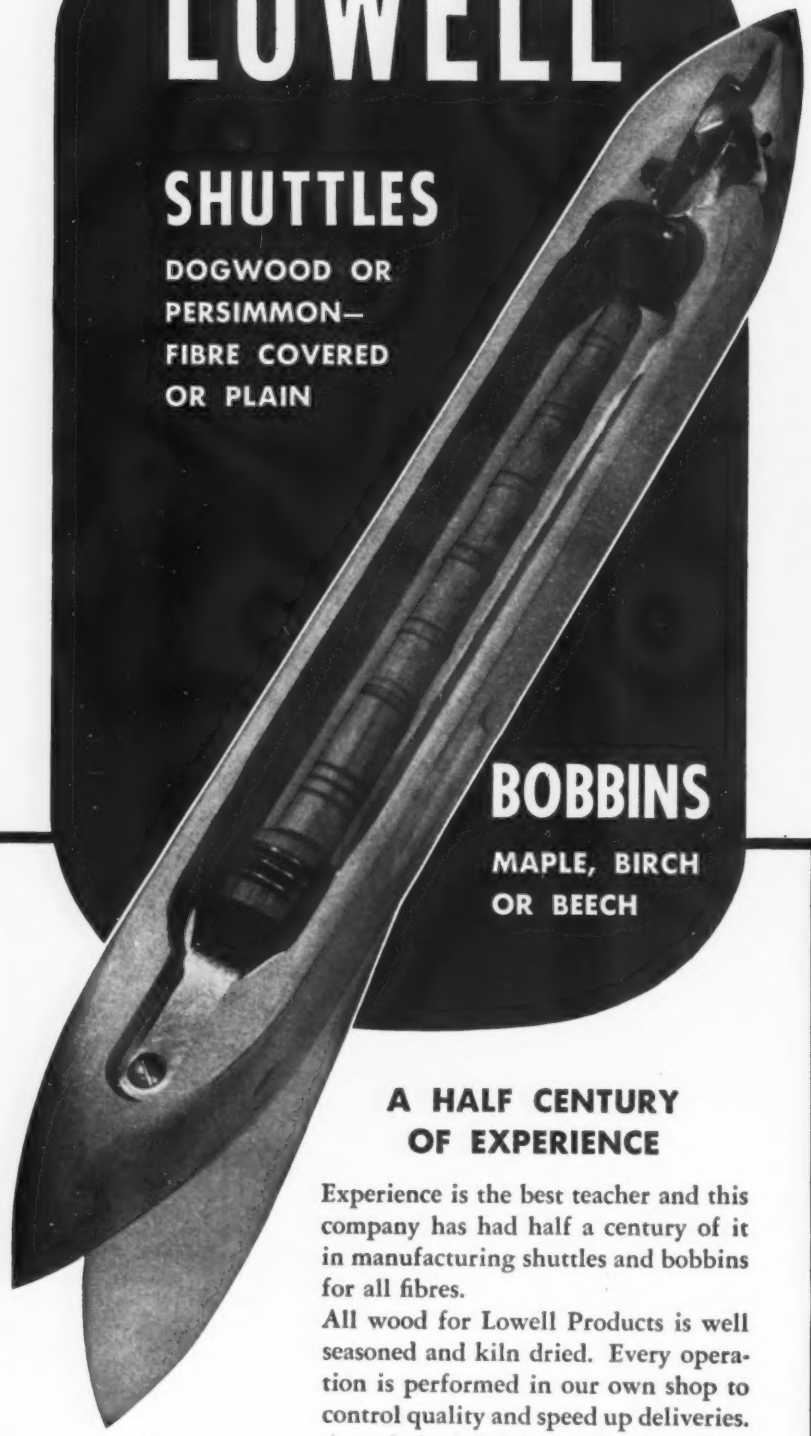
# LOWELL

## SHUTTLES

DOGWOOD OR
PERSIMMON—
FIBRE COVERED
OR PLAIN



## BOBBINS

MAPLE, BIRCH
OR BEECH

### A HALF CENTURY OF EXPERIENCE

Experience is the best teacher and this company has had half a century of it in manufacturing shuttles and bobbins for all fibres.

All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished. May we hear from you?

## LOWELL SHUTTLE COMPANY

*Established in 1896*

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may some day enable us to design yarns and fabrics of predetermined physical characteristics.

The methods by which fibers absorb moisture have been under investigation, and the formula based on the theory that resulted reproduces closely the test results on cellulose. The theory is being tested on other fibers. The information obtained is fundamental to research in the field of dyeing and to related research on such problems as the swelling of fibers.

A related research has been carried out on the swelling and change in length of fibers under variation in humidity of the surrounding atmosphere. Special equipment making possible microscopic examination of changes during their occurrence is shown in photograph on page 102.

An extensive series of tests was made on the damage sustained by yarns of nine types of fibers when dried at temperatures ranging from 220° F. to 302° F. for periods ranging from ½ hr. to 6 hr. and in atmospheres ranging from very dry to very moist.

**EFFECT OF MOISTURE.** Just being started is a series of tests to determine fiber damage sustained through repeated wettings and dryings from room temperature up to 212° F. This will include determination of oxygen damage. This series of tests is for the purpose of determining the points at which damage to the various fibers may be occasioned by mill processing, and its extent.

Dr. Eugene Pacsu, a specialist in the chemistry of sugars, starches, and cellulose, concluded that existing concepts of the molecular structure of cellulose did not fully explain its behavior. In working out modifications of the molecular structure that would more fully explain cellulose behavior, he discovered a method of making viscose rayon without the necessity of the present 72-hr. ageing process. This was developed at the Princeton laboratories, and rayon of commercial grade was successfully produced by the simplified process. This may result in substantial cost reductions in future viscose-rayon plants. A by-product of this research was an acid-resistant cellulose powder comprising over 99% of the original cellulose. This opens the door for research projects having as their objective the imparting to cotton fibers a considerable degree of acid resistance.

Other work on starch by Dr. Pacsu indicates the possibility of improved methods of preparing starch for sizing. This is now undergoing laboratory investigation by the institute.

The preceding summarizes those research projects most immediately re-

# . . . for every Textile Job!

## PROCESS WATER "MADE-TO-ORDER"!

Not just "any kind of water," but controlled, high-quality process water is a must in every textile mill today. For manufacturers know that new and better synthetic fibres and fabrics will play an increasingly important part in the textile industry's future. New equipment will be needed—new manufacturing methods—*even new process water!* More and more mill executives are relying upon modern Permutit equipment to create and control the quality of this new process water.

## CUTS COSTS FOR HUNDREDS OF MILLS!

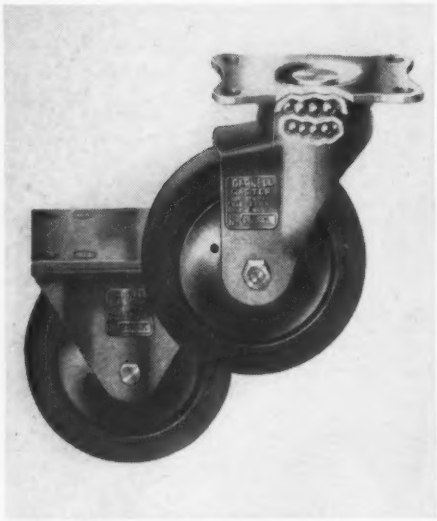
Impurities in ordinary water can easily disturb chemical reactions, causing spotty, off-color dye-lots, and spoiling the finish of fabrics. Permutit equipment removes these impurities quickly and economically. That's why Permutit controlled-quality process water cuts production costs—actually saves money —by safeguarding quality. For full information, write to: The Permutit Company, Dept. TW-10, 330 West 42nd Street, New York 18, N. Y., or Permutit Company of Canada, Ltd., Montreal.

*FOR 34 YEARS*

# Permutit

**WATER CONDITIONING HEADQUARTERS**

# DARNELL CASTERS



**If you want maximum floor protection, economy and efficiency Demand Darnell Dependability...Made to give an extra long life of satisfactory service . . . . . .**

*Write Today for the new 192 page Darnell Caster and Wheel Manual —a valuable book that should be in your files. It is (Free) of course!*

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lated to special mill research projects, as foundation material, or to operating problems. There are a number of other research projects in process of a more fundamental character and which are part of long-term programs.

**PUBLICATIONS.** In addition to complete reports on research carried out, the institute publishes a Textile Manual containing engineering reports summarising the results and significance of research projects as they apply practically to textile mill operation. This manual is distributed only to institute members.

The *Textile Research Journal*, official organ of TRI, has become a recognized journal for textile research men and organizations and publishes not only results of TRI work, but papers from any source which will be of interest to its readers.

## Rayon on Worsted System

(*Continued from page 131*)

of the box, making the outside ends wool. This will eliminate much raggedness in the sliver and subsequent slubs and lapping around the pins of the two-spindle gill box.

Successful use has been made of can gill box, keeping the wool en... on the outside as previously mentioned.

Stock should be passed twice through a blending gill box (can delivery) for more thorough blending before twist is added.

A can gill box is recommended for use whenever possible. It is impractical to put the stock in ball form as the usual tension between the creel and the gill box cannot be used on rayon because of lack of cohesion. Yet the twist must be removed or fiber breakage, uneven drafting, "faller-marks," and slubs will be encountered in gilling.

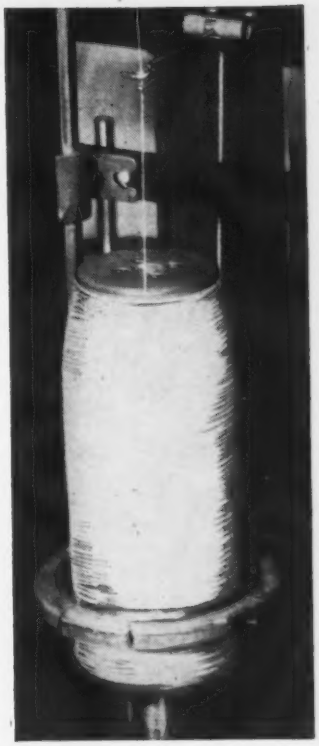
No back draft should be used at any time in gilling rayon because of its

**Atmospheric Conditions for Rayon and Worsted Blends**

| | Temp. °F. | % R. H. |
|---|---|---|
| Carding and gilling | 74 | 60 |
| Noble combing | 74 | 60 |
| French combing | 74 | 70+ |
| Drawing | 74 | 65-70 |

***Relatively low humidity** is recommended in order to prevent weakening of the rayon, packing-down of the rayon, and twist-hardening.*

# Fritting



## IS A FUSSY PROBLEM SOLVE IT WITH

## White NON-FLUID OIL

TRADE MARK REGISTERED

Most leading yarn and thread mills find that the use of NON-FLUID OIL insures greater production of perfect twist from frames. By reducing traveler friction, NON-FLUID OIL stops overstrain on yarn, cuts down the number of broken ends, and minimizes blackened yarn. This ensures more continuous operation and increased output of cleaner, more even yarn . . . at a lower production cost.

We invite you to consult with your NON-FLUID OIL Lubrication Engineer and have him recommend the grade that is perfectly fitted to your particular needs. Write for descriptive bulletin and testing samples.

**Current Quote**

"The writer has been a user of NON-FLUID OIL in cotton mills for many years and you truly have the best."

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Please send testing sample of NON-FLUID OIL to be used in the following machinery:.....

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MATERIALS HANDLING
with STANLEY MAGIC DOORS!

● Every time a worker stops to open one of your doors, *you lose money!*

A trifling amount? Multiply it by the number of doors in your mill — by the times they're opened and closed in a month — and you'll see it's not so trifling. You'll see, in fact, that over a year it adds up to a sizable sum.

Stanley Magic Doors open and shut automatically, controlled by photo electric "eyes" — or, in special cases, by other means. Besides saving time and speeding traffic, these Doors make heating, humidification and air conditioning more efficient — reduce damage to products and doors from "banging."

Stanley Magic Doors have been proved by years of trouble-free operation—are surprisingly versatile in operating swing or slide doors or a combination of the two — and are designed to suit most requirements of space or location.

Write for full information on Stanley Magic Doors now. The Stanley Works, Door Control Division, New Britain, Connecticut.

STANLEY DOOR CONTROLS
Trade Mark

*The Magic Door*

tendency to curl around the gill pins, causing neps and slubs. Because rayon packs readily, coarser pinning than for wool is recommended. The suggested pinning for the two preparer and two finisher gill boxes is:

First preparer—8 pins per in.
Second preparer—10 pins per in.
First finisher—10 pins per in.
Second finisher—12 pins per in.

Excessive compression of the rayon in gilling should be eliminated. This can be done on the can gill box by placing a ¼-in. rubber covering on the steel calender rolls, and setting these rolls within a definite space between them by using a card gage. This will nearly double the loftiness of the sliver produced.

In packaging on a balling-head gill box, the side weights have been lightened to remove pressure and make a softer ball.

When processed without pressure exerted by the ball winder or punch box, the weight of the comb balls is only about 7 lb., but the added production gained by having the stock in lofty condition more than compensates for the extra attention required.

**COMBING.** Changes can be made on the Noble comb that can improve production and sliver evenness. Rayon can be handled with a much higher draft than used for wool. A draft of 2.05 is used on 3½- to 5-in. varied-length rayon staple, and 5- to 7-in. rayon is processed using a draft of about 3.

A set of 36/42 circles does a very good job on 5.5 denier, and fine pinning should be used in combing 3.0 denier.

Installation of air jets to blow the fiber toward both the inside and outside draw-off rolls has helped in producing an even sliver. Outside draw-off rolls should be 1½ in.; and inside draw-off rolls, 1¼ in. Smaller rolls would decrease the amount of noil, but the larger rolls help take care of the extra "drag" of rayon staple.

Speed of the large circle can be set at 4 rpm. as long as the dabber is going 1,000 rpm. or better.

Best results are obtained when a sliver of 7 to 8 oz. of 5.5 denier is fed, provided the card web was clean. For 3.0 denier, a 5- to 6-oz. sliver should be the maximum.

Tension of the sliver between the funnel and coiler must be relieved to the point of slight sagging because of the lack of cohesion of the rayon. It is also quite beneficial to use rubber-covered rolls in the coiler.

The comb temperature of 180° necessary for wool can be decreased to 125° for rayon.

Any type of aprons may be used in

IF it is

SIMPLEX CLOTH

or its manufacture watch

for the announcement of

our new

REINER

SIMPLEX

MACHINE

Robert Reiner, Inc.

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*Quality Textile Machines Since 1903*

Back of every great development in Textiles stands the Bobbin

*Nylon—a wonderful yarn that added many new Bobbin problems . . .* As Nylon is thrown it builds up a terrific pressure, a pressure sufficient to crush and distort the barrel of any ordinary Bobbin.

To meet this condition Cloverleaf-Freeland is working with the forward-thinking minds in the Industry on new designs, new materials, new constructions for Bobbins that will stand the pressure of Nylon many times over.

This is just one example of thinking that goes on at Cloverleaf-Freeland—thinking that builds great Bobbins.

CLOVERLEAF-FREELAND CORP.
Hazleton, Pa. Honesdale, Pa.

CLOVERLEAF-Freeland
BOBBINS

the Noble comb as long as they have a good splicing job. Chrome-treated aprons are superior insofar as weaving and licking are concerned.

**DRAWING AND SPINNING.** For better results in drawing and spinning, excessive roller pressure, twist, and bobbin tension should be avoided.

In drawing and spinning, the back rolls should be rubber covered; and sliver should not be wound on spools too tightly.

Rayon staple takes twist much more readily than wool; therefore less is needed in the drawing operations than is normally found in the drawing of wool. It becomes increasingly difficult to draft rayon if a high twist is used.

The last chapter in the efficiency of the Bradford system of using several billion doublings for evenness has not yet been written. Because of the efficiency of doublings in leveling up irregularities, only a few doublings are necessary to gain a great improvement in uniformity of weight per unit length. To go on doubling after this point has been reached is not only useless for increased evenness but calls for more drafting operations to get the necessary reduction in weight.

## Filling Straightener

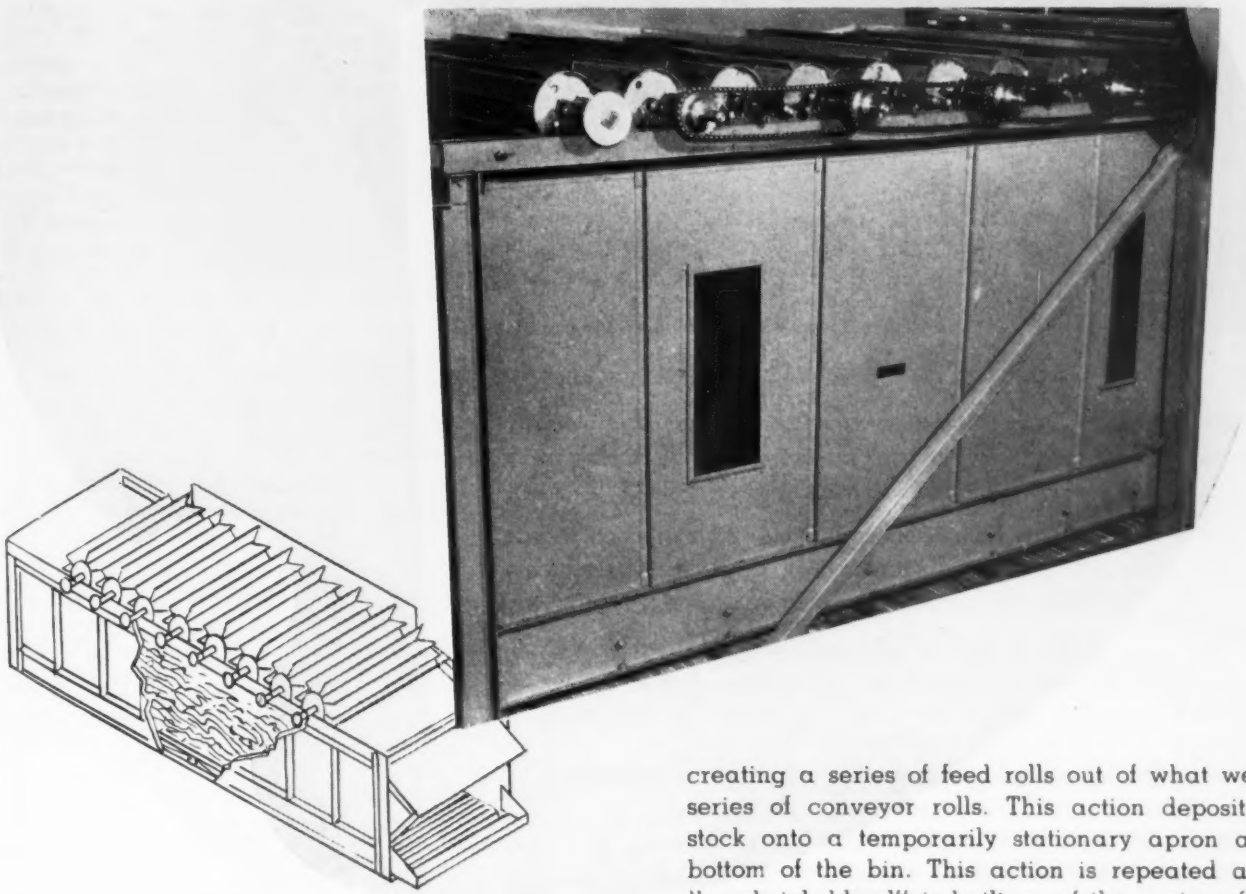
(*Continued from page 127*)

change in light is a measure of skew. The greater the skew, the greater the light change. As the signal level is low, the output of the phototube must be amplified. A d.c. amplifier performs this function. This amplifier is then coupled to a phase-shift bridge which controls the amount of current through a thyratron tube, which in turn controls the current through a d.c. shunt motor. Two thyratrons are connected in an inverse parallel circuit, so that the motor direction can be controlled. Thus, as the light increases on one phototube, the motor operates in one direction; as it increases on the opposite phototube, the motor operates in the reverse direction. The d.c. motor, through a reduction gear, drives the canting roll to a position which removes the skew. The panel is supplied from an ordinary 220-volt (a.c.) line, with no special transformers required. A current-limit circuit is provided which automatically controls the maximum magnitude of the motor current. Even though the motor might stall, because of a breakdown, the armature current is limited to a safe value. This straightener provides a modulated control; that is, the speed of the motor is di-

REVOLUTIONARY

# New Blending Unit

## *Eliminates the inaccuracy of hand labor*



● *An entirely new and completely automatic blending unit developed recently by Proctor engineers carries automatic blending to the ultimate.* This unit, designed to be used in line with automatic weighing feeders, consists of a series of power-driven rollers, mounted over a bin and fed by a ceiling condenser. Component stocks are fed to a picker in exactly the amount desired by the automatic weighing feeders and it is from this picker that the stocks are transferred to the ceiling condenser and fed to the new blending unit. Stock drops from the condenser and travels over all of the revolving rolls until it reaches the far end of the bin. At this point, a timing mechanism reverses every other roll momentarily, creating a series of feed rolls out of what were a series of conveyor rolls. This action deposits the stock onto a temporarily stationary apron at the bottom of the bin. This action is repeated and a "sandwich blend" is built up of the various fibers. When the bin is full, the overhead feeding mechanism stops and the apron in the bin moves forward. Breakdown rolls which have retracting pins draw out and compress the mass of stock and feed it evenly to a picker for further processing. The effect of this new unit combined with the automatic weighing feeders on accuracy is obvious. Not only does better blending result—but it is accomplished with far less labor. If blending is a part of your plant operation—write today for details on this unit which was first developed for wool blends but which has been found adaptable to use with cottons and synthetics.

**PROCTOR & SCHWARTZ, INC**

**PHILADELPHIA 20, PA.**

# LEARN HOW YOU CAN SOLVE HUMIDIFICATION PROBLEMS

***Simply mail Coupon below—***

When you have such problems as new fibers or change of humidity, you can ruin stock and waste good production time by having to fool around with cumbersome humidification.

Learn how Walton Humidification provides prompt action with its multi-directional domes (see photo) which come completely assembled, ready to hang up anywhere you can run a water pipe.

Learn about the principle of horizontal discharged vapor and our accurate automatic control operated by simply setting a dial.

## Walton Humidification Proved

Write for your copy "HUMIDITY" and get *all* the facts on Walton Humidification. We will be glad to refer you to satisfied users, to show you how "overnight" installation can be made, how economical it is to install and operate, and much more valuable information.

Please mail me copy of "HUMIDITY"

WALTON LABORATORIES, Inc.
Irvington 11, N. J.

NAME .....

COMPANY .....

ADDRESS .....

.....

**Please** refer to **TW 11-7**

rectly proportional to the error (skew) signal. The advantages of modulated control include greater accuracy and a lighter-duty motor.

The results obtained with this straightener have met the design specifications. With most types of open-weave material, the accuracies obtained have been approximately ½ in. or better in 36 in. With a few particular materials, such as finer weaves or dull finishes, the results have not been so good.

**BOW CORRECTION.** By rearranging the phototubes, a measure of bow can be obtained. With this system, the light again increases on one phototube and decreases on the second. If the bow reverses, the phototube sense reverses. The control circuit functions the same as with skew, but the motor drives a bow-correcting mechanism. Where to place the bow-correcting mechanism in the processing line is a problem. It is desirable to place it at the entry end of the tenter because the material there is still workable. However, with some frames, the material may go in straight and yet come out bowed due to the pull of the tenter. This leads to adjusting the bow-correcting mechanism to the proper initial operating condition; that is, it may be necessary to place a reverse bow in the material at the entry and to compensate for a forward bow at the exit end.

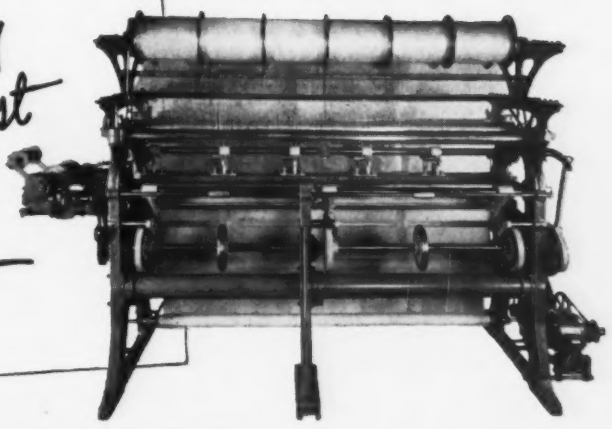
**STRAIGHTENER ACCURACY.** As with most automatic controls, each of these straighteners has certain limitations.

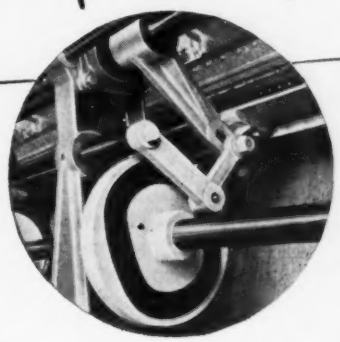
With the transmitted-light control, it must be possible to get a signal through the cloth. Where the weave is too tight, this control is not effective. With special diagonal weaves, it is further limited in its ability to detect skew. Generally speaking, however, the transmitted-light straightener can do an excellent job of removing skew and bow.

The reflected-light straightener, although limited in its accuracy, can be used with open-weave goods and certain types of close weaves. It responds favorably to weaves with raised threads or tufts. Obviously, the type of control to be employed depends on the weave processed and the accuracy required.

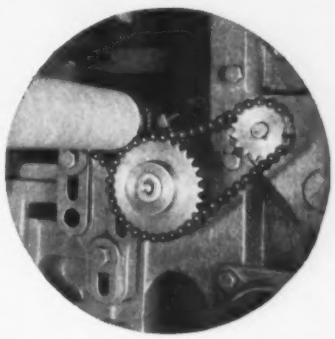
Developments designed to reduce the cost of these controls and simplify their operation will continue. There are some weaves and certain types of materials which require still different types of automatic controls from those described in order to obtain improved quality. The problems involved in developing these needed controls can doubtless be solved.

# Three of the reasons why the Kidde Knitter is the last word in Raschel-type warp-knitting machines —

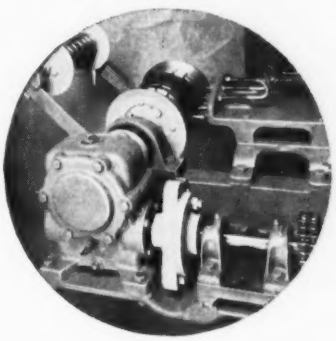




***Needle Bar Suspension.*** A new type of suspension at ends and center of the needle bar contributes to high speeds and simplicity of pattern changes. Needle bar—pivoted on arms and swinging in an arc—is moved up and down by movement of cam followers. Needle bar stroke can be adjusted to suit pattern without changing cams. Much higher speeds are possible because conventional cylinders, pistons and weights are eliminated.



***Take-Up Adjustment.*** The take-up roller of the *Kidde* Knitter may be adjusted vertically as a unit. Take-up motion is adjustable in increments of .002 inch by means of ratchet wheels and interchangeable sprockets. Normal range of take-up is from .009 to .100 inch. By merely changing sprockets, range may be extended still further.



***Drum Motion.*** An outstanding feature of the *Kidde* Knitter is the eccentric drive for the drum motion. Drive speeds up the drum motion so that guide bars are shifted quickly when needle bar is at top dwell position. Eccentric drive is adjustable, so that acceleration of drum motion can be adapted to pattern requirements. This drive permits higher operating speeds than are possible with either index drive or worm feed drive.

These are just three of the many unusual design features incorporated in the *Kidde* Knitter—features that contribute to wide versatility, high sustained operating speeds, exceptional accessibility.

Write for descriptive literature—or better still, see for yourself what the *Kidde* Knitter can do. A machine is in operation at our Bloomfield plant—we'll be glad to arrange a demonstration. Just write for an appointment.

*The word "Kidde" is the trade-mark of Walter Kidde & Company, Inc., and its affiliated companies.*

**KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY**

**Kidde Knitter**

A-P-T.

# *Tapered* WARP SPINNING BOBBIN

## Better Spinning from Seating to Doffing...

**FINGER TIP SEATING**— The A. P. T. Tapered Warp Spinning Bobbin provides spindle tip suspension, practically eliminating vibration with resultant wear on spindles and bearings. The characteristically tough, rugged yet resilient construction of all A. P. T. Yarn Carriers has its good effect, too, on the successful seating of warp spinning bobbin. As contrasted with conventional bobbins, finger tip pressure seats this A. P. T. bobbin with the perfect spindle cling that prevents rising and still permits quick and easy doffing.

**BETTER SPINNING**— The tapered construction of the A. P. T. Warp Spinning Bobbin eases spinning conditions so as to permit improved quality production. The larger diameter at the bottom of the bobbin reduces the strain at the start of the spin, which means fewer ends down and better production. Rewinding and spooling operations are easier.

## OTHER ADVANTAGES

LIKE other A. P. T. Yarn Carriers, this tube is made of laminated paper impregnated for water repellency and hardened by baking. It is highly resistant to distortion, chipping and splitting, will not splinter and is free from static. Deep, well rounded corrugations permit free but controlled delivery.

*This is the standard bobbin, proved by years' use in many mills.*

## AMERICAN PAPER TUBE COMPANY

ESTABLISHED 1898

WOONSOCKET, R. I. GREENVILLE, S. C.

SALES OFFICES IN NEW YORK AND CHICAGO

## Compressed Air

(*Continued from page 117*)

arrangement gives a two-way feed to the point where the air demand is greatest.

3. Use liberal-size receivers near the far ends of the system and at points of occasional heavy use.

4. Provide frequent connections in the line for attaching hose pipes. Place each outlet at the top of the pipe line to prevent condensed moisture from reaching the tool.

5. Arrange all piping so that it slopes toward a drop leg or moisture trap.

**LOW AIR PRESSURE.** Undoubtedly, the fault most commonly found with compressed-air systems is low air pressure. Only the pressure and volume of air available at the point of use can be effective in doing work. Most pneumatic tools, for example, are designed to operate at 90 lb. gage maximum at the point where air enters the tool while the tool is in operation. If the pressure is below the range of 85 to 90 lb., the ability of the tool to do its maximum work is lowered.

The first step in correcting low air pressure should be to determine whether or not the compressors are at full load when the air pressure is low. If they are, more compressor capacity may be required; but consideration should be given also to two other common causes of low pressure: (1) inadequate piping, and (2) leakage.

In a well-designed system, the loss of pressure between the air receiver, where the compressor should maintain a constant pressure, and the point of use should not exceed 10%. The absolute maximum drop for the worst point in the system should not exceed 15%. If the pressure drop is greater than 10% average and 15% maximum throughout the entire system, including hose, the fault should be corrected before increased compressor capacity is considered.

Leakage is a waste that can easily be corrected. Obviously, if leakage is eliminated, the compressed air formerly wasted will be available for useful work. The expense of making lines tight will undoubtedly be less than the cost of installing a new compressor to compensate for loss of air.

**PRESSURE LOSS.** Faulty air-power conditions are usually due to poor planning or to increased air uses without a corresponding expansion in the air system. Pressure loss varies roughly as the square of the velocity of air flowing through the pipe. For example, a 3-in. line, 1,000 ft. long,

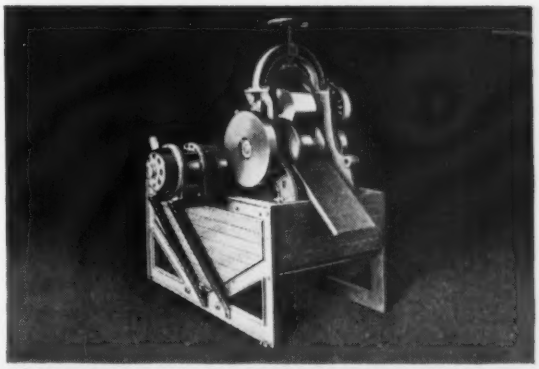
Hunter

1847 One Hundred Years 1947

There are
# Hunter Soapers
for

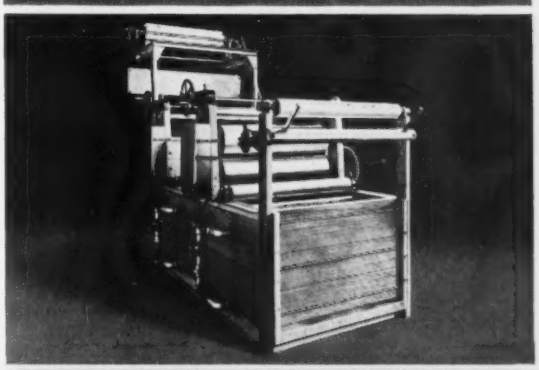
**Low Production:** The Hunter Single Rope Soaper is particularly designed to fit the production and budget requirements of the small mill. It is capable of accommodating six to ten Rotary Fulling Mills, yet because of its simple design, it is low in cost. The tank is built of selected tongued and grooved cypress. Main rolls are cast iron, top and bottom, with roll pressure applied through hand wheels and springs. The carrier rolls are made of wood and the machine may or may not be equipped with a Folder. Power is furnished by a 2 HP motor through a front-gear attachment or pulley reducer.

**a**



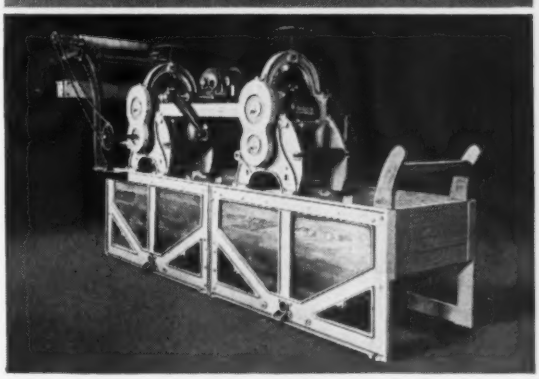
**Medium Production:** The Hunter Tandem Rope Soaper, shown in illustration b, has a productive capacity suitable for medium-sized mills. It has two soap tanks made of seasoned cypress, framed with sturdy cast iron supports. Each tank is equipped with a set of cast iron pressure rolls individually controlled by hand wheels and springs. Idler rolls are made of wood and the machine may be optionally equipped with a Folder. The Tandem is driven through two speed reducers, a variable speed and two 2 HP motors.

**b**



**High Production:** In large mills where high production is essential for economical operation, the Hunter Model C Soaping Unit offers complete equipment for fast thorough soaping. The main tank of 3″ cypress is 42″ wide x 3′ deep x about 9′ long. It has a slotted partition which allows the soap to flow and counterflow continuously. There are two sets of pressure rolls, one 36″ face, the second set slightly narrower. In addition, the Model C is equipped with all the necessary spreader bars, carrier rolls and a folding device. The entire machine is driven through a 5 HP motor and speed reducer.

**c**



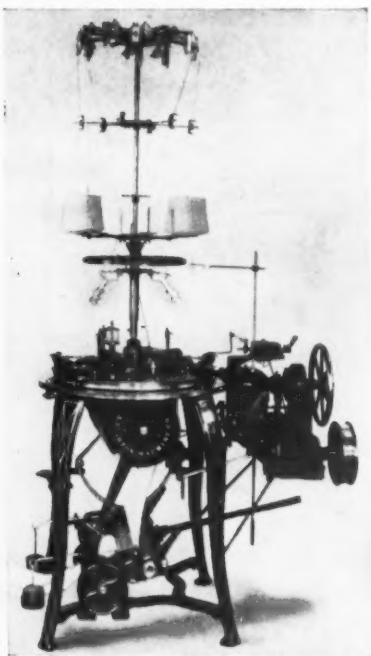
WRITE FOR FULL INFORMATION

**JAMES HUNTER MACHINE COMPANY, NORTH ADAMS, MASS.**

# Outdoor Action or Luxurious Loafing

Leighton Knitting Machines are the foremost producers of knitted fabrics for athletic and sportswear. Plain or fancy patterns . . . full or half cardigan stitches . . . brushing attachment . . . no wonder that many famous figures in the athletic world are wearers of Leighton-Knitted hose, caps, sweaters and other specialties.

**LEIGHTON**
**KNITTING MACHINES**



**KNIT GOODS FOR**
**FOOTBALL**
**HOCKEY**
**HUNTING**
**RIDING**
**SKATING**
**and all other**
***WINTER SPORTS***

LEIGHTON MACHINE COMPANY
ESTABLISHED—1873

LEIGHTON

MANCHESTER NEW HAMPSHIRE
INCORPORATED—1894


will handle 500 cu. ft. per min. with a 2.5-lb. pressure loss. A 4-in. line will pass about 1,000 cu. ft. per min. with the same pressure loss. Since most of the cost of installing a line is for labor, the installed cost of a 4-in. line will be very little more than that of a 3-in. line.

Not the least of the problems of correct system layout is the selection of proper hose for final transmission of compressed air to the tool. Losses of 15 to 25% in air pressure are frequent in hose alone. A hose no longer than is necessary to make the tool available to work and to give proper freedom of movement to the operator should be used.

Every section of hose used in the plant should be inspected, and air-leakage tests should be made. Although leaks are usually small, they may be numerous and have a high total effect. Loss from leakage in many plants runs as high as 10 to 20% of the total air compressed. A single $\frac{1}{8}$-in. hole will waste 182,000 cu. ft. of air per month, costing approximately $10.

Regular inspections of valve stems, hose connections, unions, drains, blow pipes, and lines should be made in order to guard against leakage and to insure the most economical use of the air system.

Inspection at definite intervals should also be made of the compressor itself. Shutdowns at inconvenient periods can often be avoided by making needed corrections at the inspection period. Replacement of worn parts, adjustment of working parts to compensate for wear, putting in new packing, and cleaning air valves and crankcases should not be put off until the system breaks down.

All parts and passages should be examined and any obstructions, such as carbon and sticky oil, removed. A deposit on the valves indicates that the intake air is dirty or that too much oil or unsuitable oil is being used. Corrective measures for such a condition should be made as soon as practicable after the deposit has been noticed.

**CLEANING THE CRANKCASE.** Crankcase oil must be changed at intervals. before the case is refilled, it should be thoroughly cleaned. Care should be taken to leave no lint or other foreign matter in the crankcase that might obstruct oil passages. Gasoline or other inflammable solvent should never be used for washing the crankcase.

A compressor may require as many as three different types of oil: one for the compressor cylinder, another for the crankcase and bearings, and

# Lanese*

## adds something highly saleable to cotton, wool and viscose process rayon

In today's competitive market the "wanted" mixtures contain a high percentage of Lanese—in fact, the most desirable spun combinations contain a major proportion of Lanese yarn.

Made from cellulose acetate and possessing distinctive properties, Lanese contributes definite selling advantages, when used in combination with other fibers. Where the proportion of Lanese is dominant, fabrics gain noticeably in such desirable qualities as richness of hand, beauty of color, improved draping ability, increased resistance to shrinking and stretching. These are points that appeal to the customers—all the way from apparel manufacturers to the final consumer.

### POINTERS TO LANESE

Appreciably less waste with Lanese; quality scientifically controlled.

Staple lengths uniform from bale to bale . . . No off grades.

Carrying long-range inventories to assure continuity of supply unnecessary with Lanese.

Price stability—the ten-year record of Lanese prices shows remarkably little fluctuation. Hedging operations not needed.

Greater dimensional stability.

# Celanese* Lanese*

**SYNTHETIC STAPLE FIBER**

*Reg. U. S. Pat. Off.

CELANESE CORPORATION OF AMERICA, 180 MADISON AVE., NEW YORK 16, N. Y.

Branch Offices: PHILADELPHIA 7, 12 South 12th Street • CHARLOTTE 2, 1106 Liberty Life Building • BOSTON 10, 140 Federal Street

**USE RAYCO Fibers!**

Just let us know *what* you want—we'll see that you get it *at just the right price.*

Whatever your requirements in comber noils, card strips, spinners and rovings (machined and unmachined), colored card strips, soiled card and cotton linters, we can meet your *exact* requirements.

We are able to offer you cotton, cotton and rayon blends; cotton, rayon and aralac blends and assorted rayon sweeps.

**The RAILWAY SUPPLY & MFG. CO. and Affiliates**

*Specialists in Grading, Marketing and Processing Cotton and Synthetic Fibers*

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**RAYCO**

**COTTON & SYNTHETIC FIBERS**

3949

another for the power cylinders. However, for compressors of the single-acting, trunk-piston type, a special compressor-cylinder oil that is suitable for both the cylinder and crankcase must be used.

The following table will serve as a guide to show the physical characteristics desirable for compressor-cylinder oils:

| | |
|---|---|
| Flash point (°F.) | 350° minimum |
| Viscosity S.S.U. (at 100° F.) | 245 minimum |
| Viscosity S.S.U. (at 210° F.) | 45 minimum |
| Pour point (°F.) | +35° maximum |
| Neutralization No. | 0.10 maximum |
| Conradson carbon residue (%) | 2.0 maximum |

## Fiber Identification

(*Continued from page 147*)

**MANUFACTURING WASTE.** Fiber properties have little effect on the percentage of picker waste. The bulk of the samples tested ranged in "equivalent or converted" grades from Strict Middling to Strict Low Middling—a range of only three grades; and of the six fiber properties considered, only grade had a significant influence on picker waste. If the range of samples had included more than three grades, the importance of grade would have been found to be considerably greater.

In contrast, variation in the fiber properties appreciably affect the percentage of card waste. The order of importance of fiber properties to card waste is as follows:

1. Grade of cotton
2. Upper-quartile length
3. Fiber fineness
4. Coefficient of length variability
5. Fiber strength
6. Percentage of mature fibers

The first three properties significantly influence the percentage of card waste; and of these three, grade is definitely the most important. The last three properties have no significant influence on the percentage of card waste.

It should be emphasized that the relation of fiber length to yarn strength as expressed here applies only to yarn strength, and does not imply any lack of importance of fiber length to adaptability, service performance, and life of products manufactured from cotton. It should also be remembered that these findings apply only to yarns from 22s carded to 100s combed and represent only warp yarns of semi-hard twist.

How far it is safe and practical to reduce the factor of staple length and offset the reduction with an increase

# TEXTILE BANKING COMPANY

Inc.

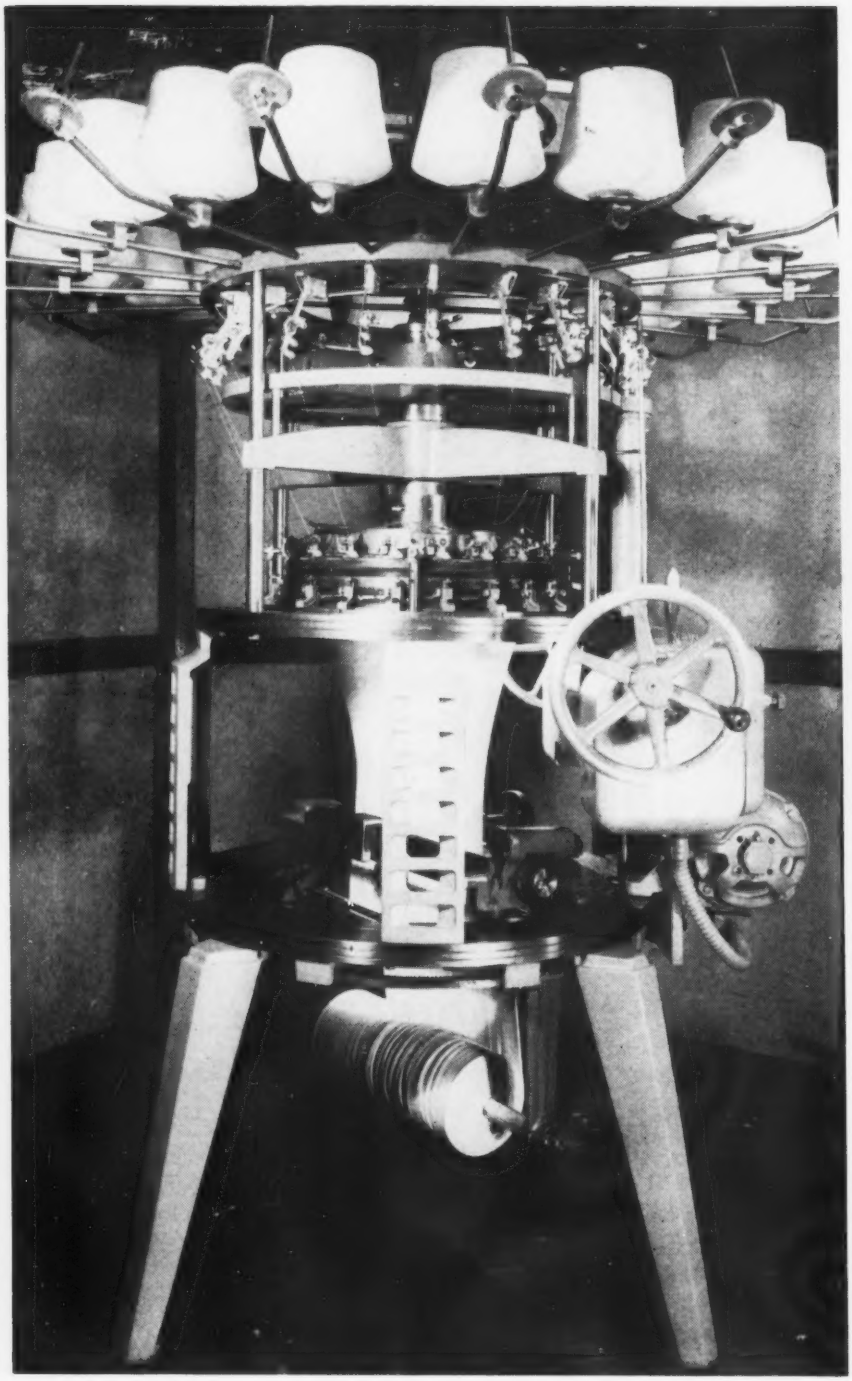
*Factoring Service*

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE · NEW YORK

*There's a place in your mill for*

# TYPE AM MULTIFEED RIB MACHINES



*Illustrated: 20" • 20 feed • 14 cut machine*

## *Features . . . .*

- Gear driven dial
- Oversized dial shaft
- All ball bearing enclosed drive
- Multidisc clutch
- Free wheeling for easy hand turning
- Adjustable motor mount
- Belt driven take off with infinite speed changes
- Clutch actuated roll up for even tension
- Simplified caming system both on cylinder and dial
- One feed per diameter inch
- Sizes in production from 9" to 25" inclusive
- All gauges from 8 to 16 cut
- Early deliveries on all machines

*Can be seen at our plant at all times*

**EDMOS PRODUCTS CORPORATION**

**13 Christopher Ave.** **Brooklyn 12, N. Y.**


in fiber fineness and strength remains to be determined. Until proved otherwise, fiber length should continue to be an important consideration in utilization of cotton fiber.

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Copies of the Paper "Relation and Importance of Certain Fiber Properties of Long Staple Cottons to Strength and Appearance of Combed Yarns, and to Percentages of Manufacturing Waste", from which the accompanying article was abstracted, are available at U. S. Dept. of Agriculture, Production & Marketing Administration, Washington 25, D. C.

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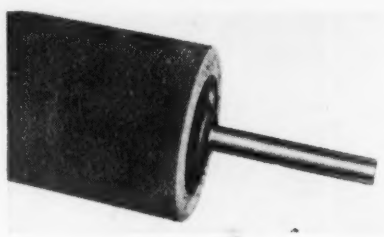
## Textile Equipment News

(Continued from page 152)

### pH Test Paper Kit

*A new pH-test kit contains 19 Hydrion pH test papers in plastic dispensers. The complete assortment covers the full range from pH 0.0 to 14.0, and distinct color changes can be obtained within 0.25 pH unit of almost any point on the scale, it is claimed. The set, known as H-20, is manufactured by R. P. Cargille, 118 Liberty St., New York 6, N. Y.*

### Covering Aids Accuracy of Measuring Roll



*A measuring roll which has a spirally wound sponge-rubber-webbing cover to insure against slippage has been announced by Rodney Hunt Machine Co., Orange, Mass. The covering has high surface friction qualities, it is reported.*

(Continued on page 212)

# He has to be RIGHT

A "near miss" is no good.

Location of industrial plants, like finding the exact spot through the surveyor's transit, has to be *right,* too.

Here are the advantages that make the territory served by the Norfolk and Western the "exact spot" for your plant:

Intelligent native labor, both skilled and unskilled.

Alert progressive communities.

Nearness to domestic markets and, through the Port of Norfolk, to the markets of the world.

Abundant variety of raw materials; plenty of power and pure water.

Friendly tax policies, and excellent climate.

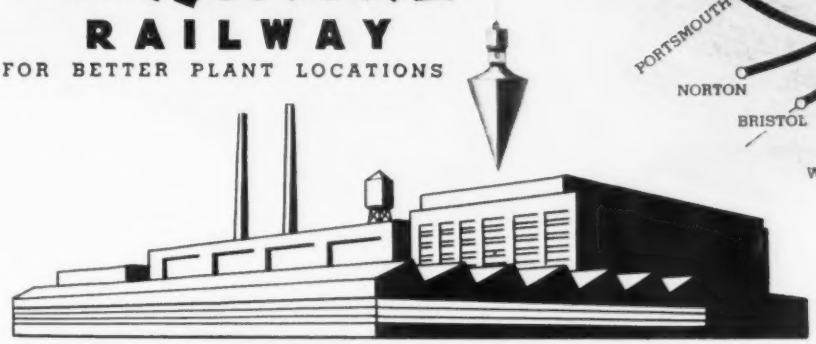
An almost unlimited supply of all-purpose Bituminous Coal mined within short distance hauls.

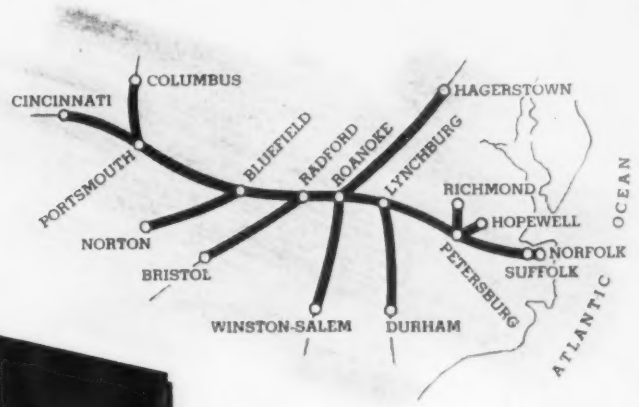
The Norfolk and Western's *Precision Transportation* — your guarantee that your materials and your finished product will move swiftly and surely.

The Norfolk and Western has complete, detailed information about any section of the territory it serves and will be glad to supply any information you require — in confidence. Write to the Agricultural and Industrial Department, Norfolk and Western Railway, Roanoke, Virginia.

**Norfolk and Western RAILWAY**

FOR BETTER PLANT LOCATIONS





Probably one of the most valued advantages of RunRite Plastic Sheaves is their ability to lengthen the service life of costly harness straps. The surface of RunRites is hard and smooth . . . no abrasiveness whatsoever. Special precision bearings keep them running true. No dusting. Once RunRites are installed they need no further attention.

RUNRITE TRADE MARK *Plastic Sheaves*

NATIONAL PLASTICS, INC. KNOXVILLE 2, TENN.

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ROBISON

RAYON YARNS

We continue to offer a flexible service combining superior workmanship in the

- dyeing
- twisting
- throwing
- converting

of filament, spun rayon, and nylon yarns.

ROBISON PROCESSING COMPANY

Boston, Massachusetts • New York Sales: 450 Seventh Avenue

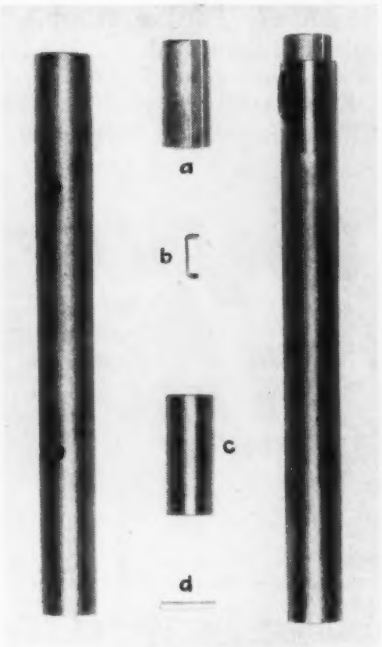

## Pulsing Drive Useful For Inching Motors

*A pulsing drive for controlling electric motors when accurate positioning is needed has been developed by Yardeny Laboratories, Inc., 105 Chambers St., New York, N. Y. A slow rotation of the control knob causes a series of short, electric pulses to be applied to the motor winding which result in motor motion in small increments in either direction. The time period is adjustable, and provision is made for continuous rotation of the motor at full speed in either direction. The drive is adaptable to any standard electric motor from fractional to 25 hp., or magnetic valves.*

## Oilite Bolster Has Long Life

Long wear at high speeds on long-traverse spinning frames is claimed for a new Oilite-type loose-step bolster recently announced by Whitin Machine Works, Whitinsville, Mass.

The new bolster has an Oilite bear-




*Oilite-bushing bolster insures long life on long-traverse spinning frames. (Whitin)*

# "Fashion may be fickle but I'm not"

Like every woman, she always knows and loves one constant quality amid the shifts and changes of fashion—and that is the beauty of the fabric itself. And proper processing has *so much* to do with a fabric's quality of eye-appeal.

That explains why more and more of America's leading mills, converters, finishers and dyers have turned to Colgate-Palmolive-Peet for high-quality wetting, fulling, scouring and dispersing agents.

Remember, there is a C.P.P. soap or synthetic detergent for every type of fabric—for every processing problem. Ask your Colgate-Palmolive-Peet representative for complete details. Or, write to Industrial Department, Colgate-Palmolive-Peet Company.

**COLGATE FORMULA 25**
**COLGATE WHITE SOAP FLAKES**
**ARCTIC CRYSTAL FLAKES**
**ARCTIC SYNTEX A, T AND M**
**COLGATE FORMULA 10**

**Colgate-Palmolive-Peet Company**

JERSEY CITY 2, N. J. • ATLANTA 3, GA. • CHICAGO 11, ILL. • KANSAS CITY 3, KANS. • BERKELEY 2, CALIF.

FAST, SAFE HANDLING
with a COFFING "QUIK-LIFT"
ELECTRIC HOIST

Load lifting and lowering goes faster and more safely with a Coffing "QUIK-LIFT" Electric Hoist in Action. Built for durability and continuous use the "QUIK-LIFT" takes AC or DC current and is extremely simple to operate. Raises or lowers to the fraction of an inch.

Pendant control for up or down movement; shoe type brake is sturdy and positive; hook or lug suspension; heavy duty motor. 17 models to handle from 500 to 4000-pound loads—at the lifting speed most efficient for your requirements.

*Write for Illustrated Folder No. J3*

COFFING HOIST CO.
DANVILLE, ILLINOIS

ANDREW K. HENRY

★

RAYON TOPMAKER

VISCOSE

ACETATE

RAYON NOILS

★

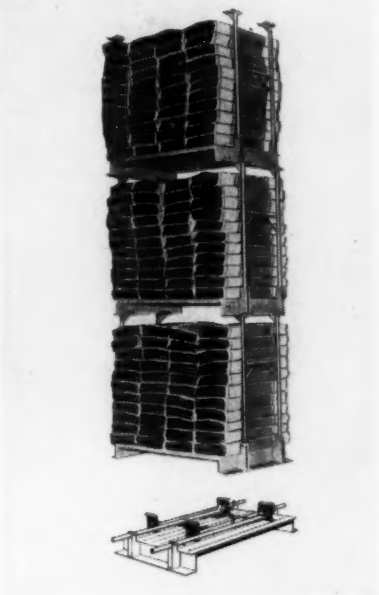
158 SUMMER STREET
BOSTON 10, MASS.

ing, a, press-fitted into the top of the steel tube and secured by a staple, b. An Oilite lower bushing, c, floats freely on a pin, d, to assure perfect alignment.

Extensive mill tests in which Oilite bolsters ran three shifts a day for a year showed negligible wear well within tolerable limits, it is claimed. No dirt or foreign matter was found in the oil.

The Oilite-bushing bolsters are interchangeable with most of Whitin's cast-iron bolsters now in operation. They may also be specified for inclusion on new equipment.

## Pallet Stacks Crushable Merchandise

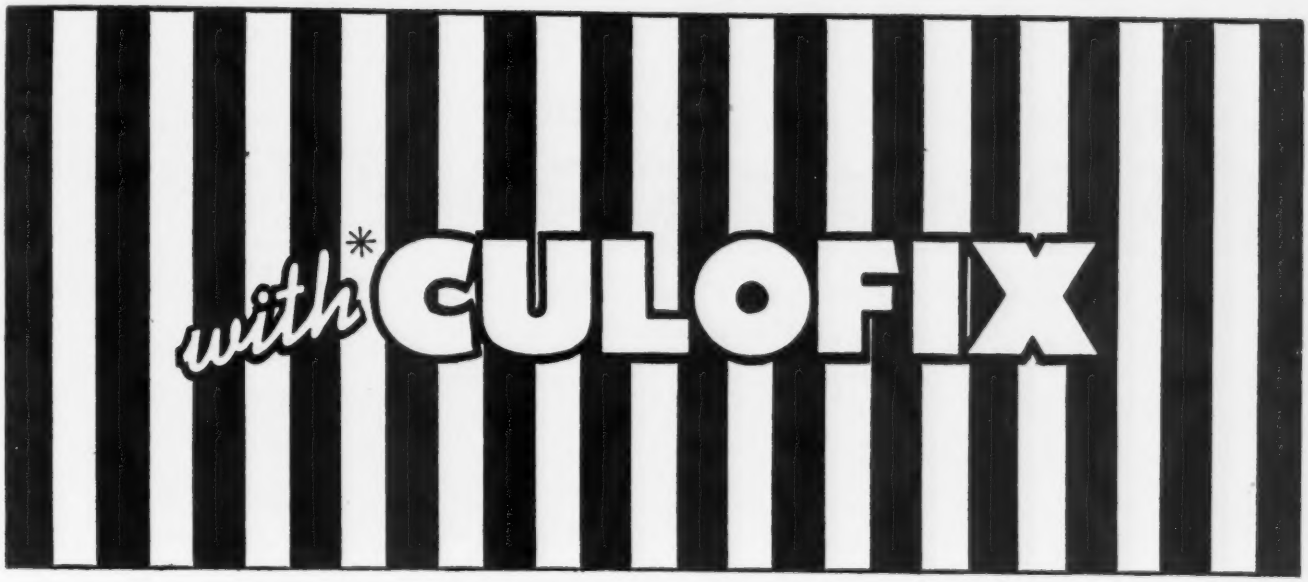


*An all-steel pallet with a collapsible, self-contained attachment for safe stacking of crushable or varied-size merchandise has been developed by Elizabeth Iron Works, P. O. Box 360, Elizabeth, N. J. When in use, supporting standards lock in an upright position to hold the "Multi-Stak" pallets, placed one above the other. When not in use, the supporting standards fold across the top of the pallet for compact storage. The "Multi-Stak" pallet has a capacity of 4,000 lb., and is made in several sizes.*

## Conduit for High-Tension Wiring

A method of running high-tension cables for use on static eliminators has been developed by Simco Co., 920 W. Master St., Philadelphia 22, Pa. The conduit replaces the open high-voltage wiring usually mounted on insulators on machine frames or ceilings. The use of conduit protects the high-voltage wiring.

(Continued on page 216)




No matter where the trouble occurs — whether while the fabric is batched up after dyeing, or in the finishing bath—Culofix will improve water fastness.

Culofix used as an after treatment following the dyeing operation is especially valuable for preserving crisp detail and contrast in prints of rayons, cottons and mixtures.

It has been used with complete success for hosiery where mixed fibres are present.

Culofix not only improves water fastness of direct colors but also imparts a very desirable soft, full finish thus eliminating an extra finishing operation.

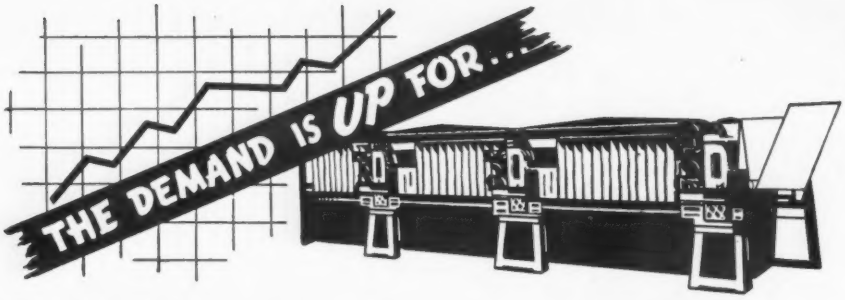
If fastness to water is essential to your direct color dyeings, write for complete data. Our technical staff is at your service without obligation.

*Reg. U.S. Pat. Off.

# ARKANSAS CO., INC.

*Manufacturers of Industrial Chemicals For Over 40 Years.*

**NEWARK** **NEW JERSEY**




# DRUMMOND Soap and Flakes

***EASY TO USE - SUDS BETTER***

Demand of the textile industry is up for Drummond Soap Flakes! And no wonder. These easy to use and quick sudsing flakes possess the same formula features of Drummond Soap—well known in the industry for years.

Now you have your choice, Drummond Soap Flakes — or Solid Drummond Soap!

Both have the advantages of high body and low alkali content — advantages that leave fabrics clean with a downier feel, brighter colors, and whiter whites. Try a sample and note the difference.

Write today for your FREE working sample of Drummond Soap — just ask for Flakes or Solid.

**Standard Soap Co. of Camden**

205 South 2nd St.
CAMDEN, N. J.

G. TANGUAY
281 Harris Ave., Woonsocket, R. I.

**VATS**
**KETTLES**
**KIERS**

We are widely experienced in the design and fabrication of all types of kiers, kettles, vats, pressure vessels, storage tanks, etc., for the textile industry. Our experienced engineering department will gladly assist you in solving your problems. Write for our catalog—"Tank Talk."

**R.D. COLE MFG. CO.** ESTABLISHED 1854
**Newnan Ga.**

## Aluminum Bobbin for Use With Adapter

*A new aluminum bobbin for use with the Regnery spindle adapter has been announced by F. L. Regnery Corp., 613 W. 16th St., Chicago 16, Ill. The bobbin rides evenly on the spindle, it is claimed, giving a better-balanced, more-concentric spinning assembly. A double wall of aluminum tubing in the bottom enables the bobbin to withstand excessive abuse in spooling operations and to stand up under the pressure exerted in winding synthetic and treated yarns. Fewer ends down and less bolster wear due to vibration are claimed.*

## Non-Slip Surfacing

*"Safety-Walk," a non-slip surfacing for use where oil or water makes floors or walk-ways slippery is available from Minnesota Mining & Mfg. Co., St. Paul 6, Minn. The surfacing consists of sharp mineral grains surface-coated on a cloth backing. It is applied to floors with a special adhesive, and is available in red, green, black, or aluminum.*

(Continued on page 218)

*Presenting The All-Star*

# SULPHONATIONS REVUE

## highlighting that great performer "MONOPOLE"

● Forty-five years experience in producing Sulphonations—that's in back of every one of these star-performers! The oldest producer in the business, Jacques Wolf & Co., takes a special pride in maintaining the strictest laboratory and production controls. That's the reason a Wolf product is always known for its uniform high quality, uniformly successful results.

As the accompanying list shows, we supply all standard sulphonated oils and tallows, and a variety of special products as well. Still heading the list is our famous Monopole Oil, known throughout the industry for its tested results in dyeing and finishing. Introduced over 45 years ago—and like every Wolf product, constantly improved—this great double-sulphonated oil is still leader in its field!

Wolf offers you Sulphonations *as you want them*—in variety, value and performance.

### LOOK AT THIS CAST!

| | |
|---|---|
| Monopole Oil | Sulphonated Esters |
| Monopole Oil M.D.D. | Sulphonated Neatsfoot Oil |
| Monopole Brilliant Oil | Sulphonated Oleic Acid |
| Sulphonated Amides | Sulphonated Olevene |
| Sulphonated Castor Oil | Sulphonated Red Oil |
| Sulphonated Cocoanut Oil | Sulphonated Tallow |
| Sulphonated Corn Oil | Emulsified Mineral Oil |

Soluble Pine Oil

*And combinations with all types of solvents*

**JACQUES WOLF & CO.**

*Chemicals* PASSAIC, N. J.

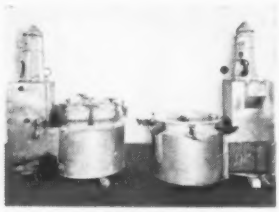
OTHER PLANTS: CARLSTADT, N. J. • LOS ANGELES, CALIF.

WAREHOUSES: Providence, R. I., Philadelphia, Pa., Utica, N. Y., Chicago, Ill., Greenville, S. C., Chattanooga, Knoxville, Tenn.

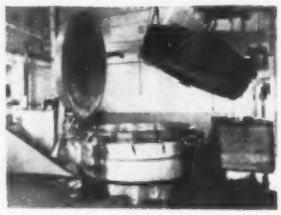
The Fleet Line

STAINLESS STEEL STOCK DYE KETTLE

Patent Numbers 2410214, 2275818 and 1813784



50 lbs. Capacity



1,000 lbs. Capacity

In Sizes To Meet Your Production Requirements

Fleet Line Stainless Steel Stock Dye Kettles are made with normal rated capacities of 50 lbs., 250 lbs., 500 lbs., and 1,000 lbs. Each size may be loaded 50% under capacity, or considerably over capacity, on certain types of stock, without loss of efficiency.

Only with Fleet Line Stock Dye Kettles can you get ALL of these features, for many of them are protected by patents.

ADVANTAGES

1. Stock undisturbed in kettle. Comes out in open, lofty condition.
2. Complete and uniform penetration of dye liquor.
3. Stock unloaded in cake form on false bottom, by electric or air hoist.
4. Temperature, pressure and depth indicators.
5. Safety sampling cover. Will not open when machine is in operation.
6. Unit construction keeps outside pipes and fittings to minimum.
7. Vertical pump requires no packing.
8. Vertical motor on top of machine away from water and dirt.

RIGGS AND LOMBARD

FOOT OF SUFFOLK ST., INCORPORATED LOWELL, MASS.



Sterling Ring Travelers

PREVENTIVES

Travelers are often blamed when the true cause lies deeper.

You can prevent Traveler trouble by keeping your frames in good working condition.

STERLING CAN STILL HELP

| | |
|---|---|
| H. B. CABANISS, Box 188 | Monroe, N. C. |
| M. H. CRANFORD | Chester, S. C. |
| D. R. IVESTER | Clarkesville, Ga. |

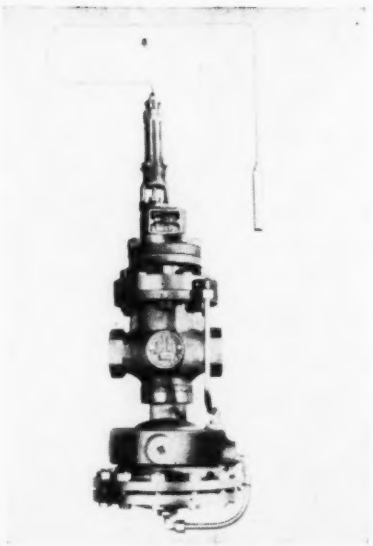
STERLING RING TRAVELER CO.

FALL RIVER, MASS.


## Steel Roll Cleaner

*A pneumatically driven machine equipped with wire brushes has been announced by Keller Tool Co., Grand Haven, Mich., for cleaning steel rolls on cotton-spinning machinery. Cleaning may be done while the rolls are in the frame, it is claimed. The wire bristles sweep down between the flutes and quickly remove oily, matted cotton. The air motor powering the unit is adjustable to any desired operating speed.*

## Low-Cost Temperature Regulator



*A new, self-acting, low-cost temperature regulator, designated as class T, is available from Leslie Co., 187 Delafield Ave., Lyndhurst, N. J. Features include single-seated construction, packless main-valve stem, hand-faced seating surface, hardened wearing parts and liquid-filled thermostatic element. Sizes are available from ½ in. to 4 in. for steam pressures to 125 psi. and liquid pressures to 175 psi., and temperatures to 450° F.*

# RAYTHRO 75

RAYON SOAKING COMPOUND

## Improves Work... Lowers Costs

***All along the line***

| INCREASES yarn production | IMPROVES fabric quality | REDUCES supply costs |
|---|---|---|
| Fewer ends down on twisters | Controlled uniform finish | Lower initial cost |
| Less yarn breakage on winders | Softer, fuller hand | Less consumption |

***Send today for bulletin giving complete details on RAYTHRO 75.***

TEXTILE CHEMICALS DIVISION

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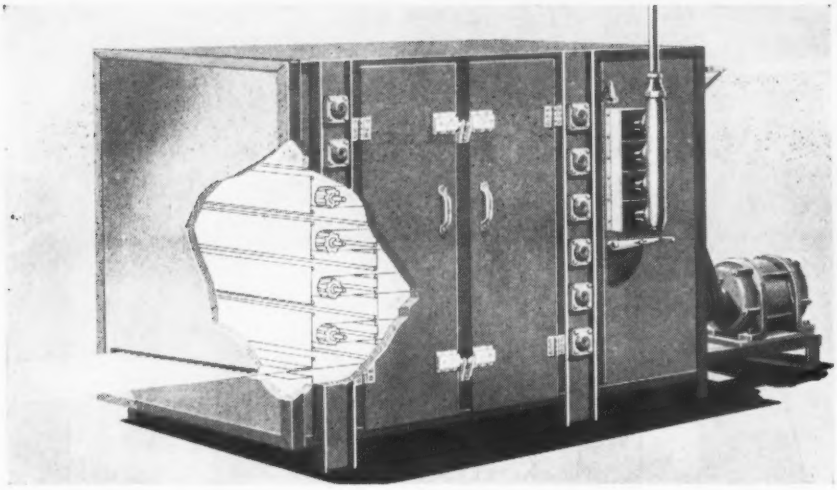
*PLANT AND LABORATORIES* NUTLEY, N. J. • *REFINERIES* PETROLIA AND FRANKLIN, PA.

**Sonneborn Processing Specialties for the Textile Industries** • Wool and Worsted Oils • Petroleum Sulfonates • Detergents and Dyeing Oils • Penetrants • Delustering Specialties • Warp Dressings • Finishing Sizes and Softeners • Water Repellents • Sulfonated Oils • Wetting and Rewetting Agents



IHE Automatic

**New High-speed WARP DRIER**

Improved features include warp suspension between fluted rolls while drying, reducing hot surface contact. Warp so dried is rounder, smoother, and stronger; and feeds into looms with less shedding.

Heat control is fully automatic at any speed, assuring uniform drying of yarn without tendering.

This faster, more compact drier, requires no ventilating hood. Uses no steam from your boilers. Designed for oil or gas firing.

*Write for details today.*

INDUSTRIAL HEAT ENGINEERING COMPANY

*Textile Drying, Curing and Singeing Equipment*

702 WOODSIDE BLDG. • GREENVILLE, SOUTH CAROLINA

*from your peroxide*

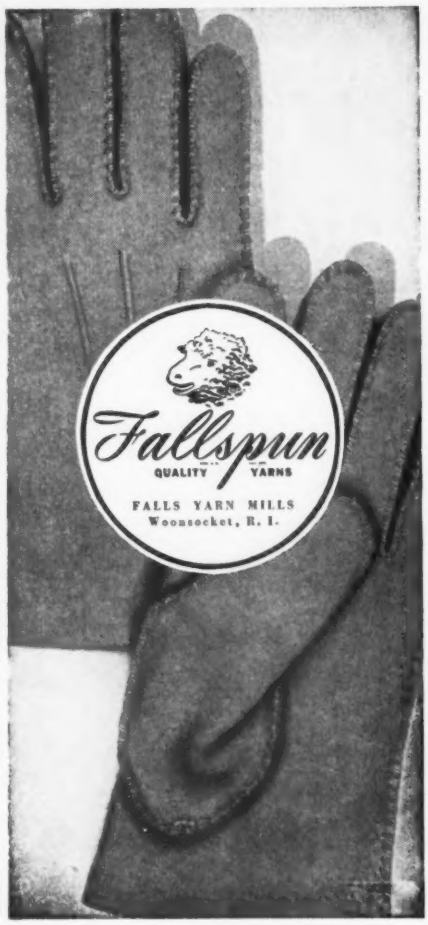
To save peroxide, use Star Brand Silicate as the bleaching assistant. Its purity adds extra stability to the bath, more evenly controlling the release of the oxygen. Its reserve alkalinity counteracts acid products.

Low dilutions which "break" ordinary silicates have no effect on Star, for there's nothing in this quality silicate to precipitate. Baths made up with Star have been known to stand up for a year.

Change to Star now and conserve your bleach.

PHILADELPHIA QUARTZ COMPANY
Dept. A, 127 S. Third Street
Philadelphia 6, Pa.

Star Brand
PQ SILICATES OF SODA




# Books of Interest

## Over 500 German Photomicrographs in One Volume

TEXTILE MICROSCOPY IN GERMANY, from data obtained by the OQMG's Textile Team; Textile Research Institute, 10 East 40th St., New York 16, N. Y.; 148 pages, $5.50.

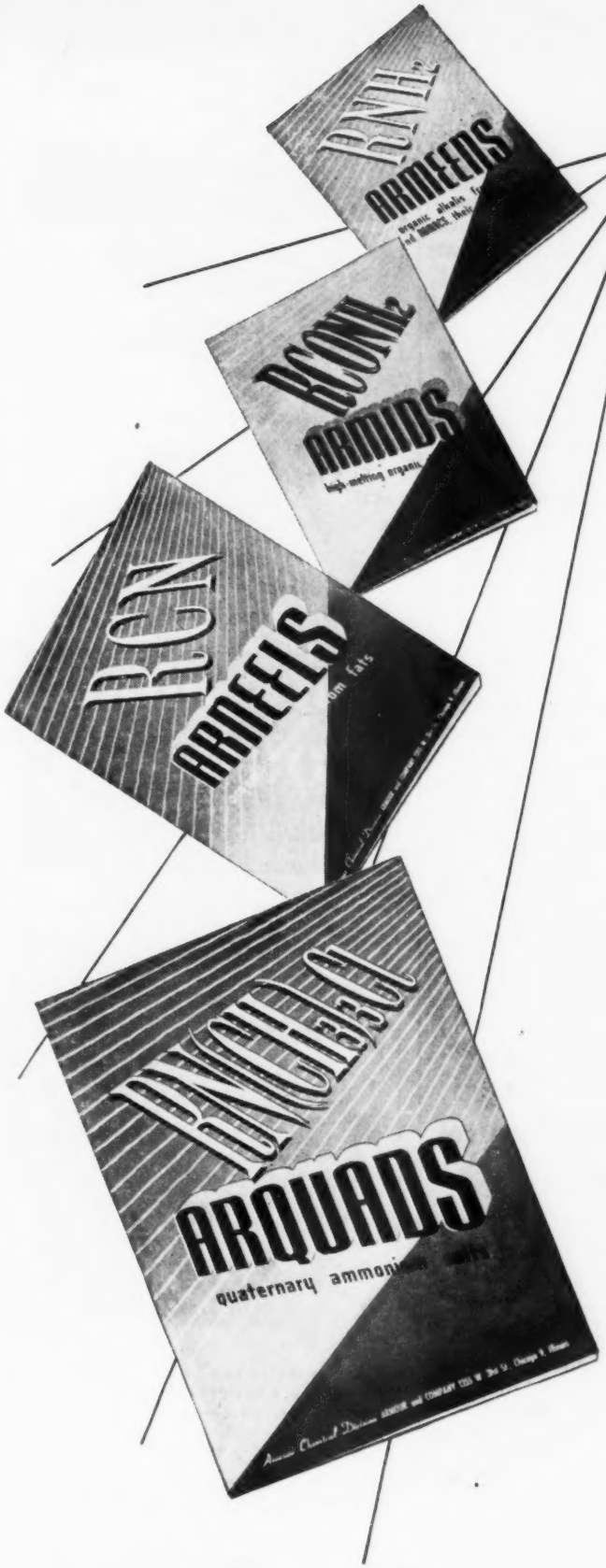
This compendium of German work in fiber microscopy is largely pictorial; there are approximately 500 individual illustrations. Two textile fiber "atlases" are included, one by H. Reumuth of the microscope laboratory of I. G. Farben, Hoechst, including 79 plates; the other compiled at Zellwolle Lehrspinnerei, Denkendorf, including 82 plates. The photomicrographs of many of the fibers, particularly the synthetics, are largely accompanied with data as to strength, elongation, etc. The book includes an illustrated article by H. Reumuth on phase-contrast microscopy. Other chapters cover photomicrographs from special I. G. Farben fiber investigations, a series of over 60 cross-sectional and longitudinal views of various synthetic fibers with data on their properties, a German bibliography, and an appendix containing numerous views taken with the electron microscope in laboratories in Holland and the United States, giving magnifications as high as 69,900.

The initial work in collecting this material was performed largely by Werner von Bergen and Joseph Meierhans, members of the textile team. Final editing was done by Mario Pesce and Norman Roberts of the Textile Research Laboratory at the Philadelphia Quartermaster Depot.

## A Primer on Full-Fashioned Knitting

FULL-FASHIONED KNITTING MACHINE PRIMER; Karl Lieberknecht, Inc., Reading, Pa.; 48 pages.

The brief and simple description of full-fashioned hosiery machines contained in this volume is designed primarily to give the young mechanic or knitter the underlying basic principles of this rather complicated knitting




**AND NOW . . . THE**

# arquads

## ARMOUR'S QUATERNARY AMMONIUM SALTS

**Newest** of the Armour "Chemicals from Fats" are the ARQUADS—a group of alkyl trimethyl ammonium chloride compounds now available in quantity for textile processing.

**Although** their full utility is yet to be determined, foremost among their current textile applications are:

**As cationic softeners . . .** the ARQUADS greatly improve the hand, can be used in smaller quantities—have many additional advantages over other softeners for rayons, synthetic fibers, and resin-treated fibers. Excellent results are obtained in concentrations of as little as 0.1—0.25%.

**In air-conditioning systems . . .** with the growing importance of air conditioning in textile weave rooms, the ARQUADS become extremely valuable in treating the water used. As little as 1 ounce of ARQUAD per 1,000 gallons of water stops algae-clogging of spray nozzles —keeps down air-borne infectious germs.

**A new booklet** containing chemical and physical data on the ARQUADS and their uses is available upon request. The coupon below may also be used for requesting similar booklets on the ARMEENS (aliphatic amines), the ARMIDS (aliphatic amides), and the ARNEELS (aliphatic nitriles) if these booklets are not already in your files.

**MAIL THIS COUPON TODAY!**
*(attached to your business letterhead, please)*

Please send me booklets checked:

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**ARMOUR *Chemical* DIVISION**

ARMOUR AND COMPANY

1355 West 31st Street • Chicago 9, Illinois

**A CUSTOMER WRITES THIS AD**

*"Extremely satisfied with*

**"H-W" Conditioners . . ."**

"The two "H-W" Conditioners in the cotton division of Amoskeag-Lawrence Mills, Inc., Manchester, N. H., operate to our complete satisfaction" writes Mr. William R. Beuret, Vice-President and General Manager. "Extremely satisfied" sums up this customer's experience which resulted in a repeat order for another "H-W" Conditioner in their Amory Worsted Mills, replacing a comparatively new competitive machine.

Mr. Beuret writes further: "Flexibility of the controls and the short period of the conditioning cycle we are using on many different types of fibres speak, indeed, very well for your equipment. The conditioners are well designed, compact, sturdy, and of a neat appearance. We will be only too glad to show anyone you may refer to us the conditioners in operation."

"H-W" *Equipment*

FOR CONDITIONING AND TWIST SETTING OF WOOLEN - WORSTED SILK - RAYON - NYLON COTTON

Write for Bulletin UCI which explains Yarn Conditioning and "H-W" Equipment.

The Industrial Dryer Corporation

**STAMFORD, CONNECTICUT, U. S. A.**


process. Diagrams and photographs show operations step by step, as well as essential parts and motions of the machine. A special series of drawings show the operation of the automatic welt turner; 12 sketches with captions cover one cycle of its operation. Following a description of the basic stitch, the book continues with sections on machine operation, the narrowing motion, picoting and lacing, reinforcing heel and foot, three-carrier or ringless knitting, plating, legger-and-footer knitting, and single-unit knitting. This booklet should prove useful to students and to those of the industry who would like to know the basic principles without excess detail.

## The Wool Manufacturers' Annual

BULLETIN OF THE WOOL MANUFACTURERS, Vol. LXXVI 1946; National Association of Wool Manufacturers, 386 Fourth Ave., New York, N. Y.; 526 pages, $10.00.

The annual publication of the wool manufacturers' association, just issued, contains not only data on the association's activities in 1946 but gives broadly inclusive statistics on the wool branch of the industry and legislative developments affecting it. It includes the brief presented by NAWM to the Committee on Reciprocity Information relative to reciprocal trade agreements and statements by representatives of the industry on the same subject; also the Hershey seminar speech of Arthur Besse, president of NAWM, on labor relations, together with statistics on the wage structure.

## Charts for Quality-Control Work

CONTROL CHARTS, by E. S. Smith; McGraw Hill Book Co., 330 West 42nd St., New York, N. Y.; 162 pages, $3.00.

Essential elements to statistical quality control are organized and delineated by a professor of mathematics of the University of Cincinnati. The book, however, places emphasis on practical applications rather than on mathematical formulas. The preface states that all the charts used with the control of quality by statistical methods are presented. A new method for determining the location of control limits for charts of fraction defectives is presented which gives simpler means for the calculation than the usual formula. The book concludes with a group of tables giving squares, square roots, and reciprocals of the numbers 1 to 1000 which workers will find useful.

**Quality Card Clothing**

IT'S BOOTH for all these advantages in card clothing:

★ FIRM FOUNDATION—preventing wire from losing pitch

★ FLEXIBLE—reducing possibility of "shelling out"

★ AVAILABLE—with rehardened points if specified.

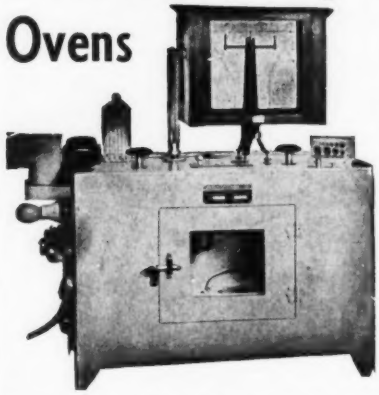
*We invite your inquiries today.*

**Benjamin Booth Co.**

Allegheny Ave. & Janney St.

PHILADELPHIA 34, PA.

**Textile Testing Ovens**



For *accurate* testing of water content in yarn. The 8-basket oven, with 3" x 3" baskets, may be changed to 6 baskets, 4¼" x 4¼", both 6" deep. Occupies table space 20" x 40".

**EMERSON Ovens**

Are built in different types to handle wool, cotton and silk. Baskets are designed specially for each class of work.

Write for details on EMERSON OVENS to fit your process.

•

**EMERSON APPARATUS CO.**

177 Tremont St., Melrose 76, Mass.

# Welcome

to the 26th National
Convention of the
AMERICAN ASSOCIATION
OF TEXTILE CHEMISTS
AND COLORISTS

Stein Hall Outstanding Products:

| for Printers and Dyers | for Finishers |
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| KAC-4 | RTC |
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| SHOPAL | CORN STARCH and DEXTRINES |
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Behind these products stands STEIN HALL Laboratory Procedure—an assurance of quality for 81 years.

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Speeder and ring spun, all sizes to 14's single and plied. Natural or Dyed.

CUSTOM MADE—
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TO YOUR
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Our flexible methods of operation assure your requirements. Tell us your needs and we will meet them promptly.

HYDE PARK MILLS, Inc.
Covington, Tenn.

"SPECIALISTS IN ENGINEERED SERVICE"

# MISSOURI Offers Opportunity for Textile Development

***HIGHLIGHTS:*** *Local garment industry, ranging from work clothes to fashion dresses, would be potent influence on development—Distribution of fabrics to West and Southwest would be facilitated—Missouri can meet principal requirements for economical manufacturing — Present marketing system seen as principal deterrent to woolen and worsted industry in state.*

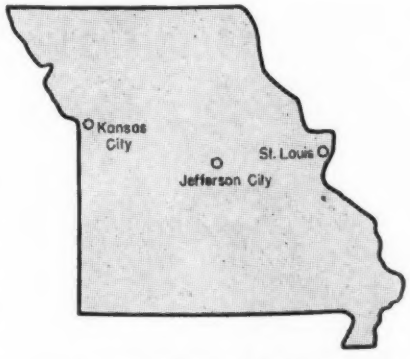
A TEXTILE INDUSTRY in Missouri may be developed in the future as a result of favorable economic and distributive conditions, it is stated in two reports made by Lockwood Greene Engineers, Inc., of New York. The reports, prepared for the Missouri State Department of Resources & Development, are the result of a thorough study and are devoted to the basic factors which affect the location of textile mills and finishing plants, with analysis of these factors as they exist in the area under examination.

The most potent influence on the location of cotton-textile plants in Missouri is expected to be the local garment industry. Missouri produces more work clothes than any other state and is close to the top in the manufacture of cotton dresses, men's shirts, curtains, and house furnishings. In addition, the state is a growing center for the manufacture of the better grade of women's dresses, and it is the desire for closer control over designs going into these garments that may prove to be an additional incentive to the location of plants in the area.

**GOOD DISTRIBUTION POINT.** Missouri is a strategic position geographically for the development of textile manufacturing and distribution of the products. Increased population and buying power of the West and Southwest and the trend toward decentralization away from the congested East justify a study of the industrial prospects in Missouri, which lies in the path of future development.

There appears to be no immediate prospect for building new cotton mills or finishing plants in Missouri because existing conditions in the industry do not favor expansion and because new machinery and skilled workers are not immediately available for plants in places remote from existing textile operations. However, future developments may lead to cotton-textile manufacturing and finishing in the state, because basic conditions there are favorable.

The opportunity for finishing plants is considered better than for manufacturing, within the predictable future, because local finishers could give local and southwestern garment makers quicker service than can eastern plants




**Principal advantages which Missouri offers to woolen and worsted mills:**

**(a) A convenient and economical point for assembling a variety of domestic wools.**

**(b) A homogeneous English-speaking rural population adaptable for training as textile workers.**

**(c) A wage scale lower than the average for the woolen and worsted industry.**

**(d) A favorable location for scouring and combing while in transit from western producing areas to eastern mills.**

**(e) A favorable location for the distribution of woolen and worsted fabrics to midwestern, western, and southwestern markets.**

**(f) A friendly attitude of citizens and state officials toward industry, with a reasonable policy of taxation and legislation.**

**(g) Rural communities with housing facilities which relieve the mill of the expense of providing houses for workers.**

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## A NEW, ENTIRELY DIFFERENT, THERMO-SETTING RESIN FOR SHRINKAGE CONTROL OF RAYONS

A shrinkage control resin which cannot retain chlorine or develop amine or "fish" odors, FORMASET SR imparts a considerable degree of crush resistance. Shrinkage stabilization is complete for the life of the fabric.

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now serving them. In addition, much backhauling would be eliminated.

**INFLUENCING FACTORS.** The factors which have influenced and are currently influencing the movement of mills can best be shown by a comparison between what actually caused mills to move to the South in the past with the advantages offered by Missouri today. The table on page 232 gives such a comparison between a desirable southeastern location and the Missouri area. Fourteen of the 24 items in the table are estimated to be about the same in both places, with the Southeast rated as having the most advantages which reduce operating expenses while those offered by Missouri depend largely on the influence of western markets, style centers, and future trends.

Since wages and hours are regulated by national legislation and differentials between locations have been materially reduced, proximity to markets can become a much more important influence on the location of cotton mills and finishing plants.

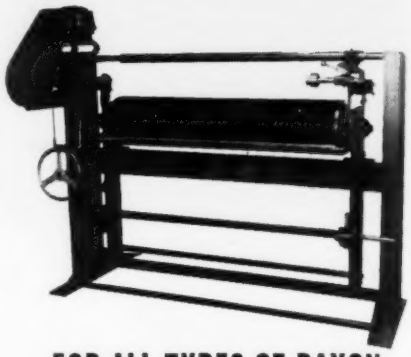
A large and growing proportion of the textile market, particularly in the needle trades, is in the Middle West. A most significant development of the last 15 or 20 years has been the transition of the dress industry in Missouri from staple house dresses to creation of styles to a large degree from influences wholly within the state. The 1945 volume for St. Louis manufacturers alone has been estimated at about $75,000,000, and the dresses produced are sold in all parts of the country.

**RAW COTTON AVAILABLE.** As regards raw materials, Missouri cotton is above the average in grade and staple and amounts to an annual crop of about 400,000 bales. It would have a stabilizing influence on local textile manufacturing, even though the local mills might use a variety of cottons from other areas.

One of the handicaps to be overcome by Missouri communities seeking to establish cotton mills or finishing plants is that there are no nearby textile operations which offer a reservoir of labor from which a few skilled and semi-skilled operators might be drawn. Therefore, a new mill would have to depend on a nucleus of experienced employees brought in to train the remainder of the working force. But textile mills can train the bulk of their employees from inexperienced agricultural workers within a few months.

Missouri is served by a network of electric power transmission lines, and


PROGRESSIVE TUBING MACHINE



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the capacity available insures an economical supply of power sufficient for the requirements of numerous cotton-textile mills.

Coal mines, oil fields, and natural-gas fields in adjoining states insure an economical supply of fuel.

Analyses of Missouri water indicate that filtration and softening treatment is necessary to make it suitable for textile finishing.

Transportation is favorable to the location of mills and finishing plants in Missouri for goods moving west and southwest. Eastward, the distribution territory would be restricted by competition of southeastern mills, but there would remain a considerable section of the Middle West that could be served from Missouri points under competitive conditions.

**WOOL-TEXTILE PROSPECTS.** Future prospects for woolen and worsted textile plants in Missouri are encouraging for substantial development, based on sound economics, even though there appears to be little chance for present development of new plants in the state.

There is no apparent economic defense for shipping grease wool from domestic producing points to Boston or Philadelphia and having to purchase it there regardless of location of the mill.

A large amount of wool passes through Missouri on its way east, in addition to the local clip. The economic justification for processing this wool at a transportation center, such as St. Louis or Kansas City, is that it would save unnecessary freight paid on grease and dirt (50 to 60% of the wool's weight) to eastern mills, reduce the time consumed in transit, and provide a local supply of processed wool which would encourage local woolen and worsted manufacturing. Additional advantages would be greater ease in scouring wool as soon as possible after shearing before the grease has had time to set in the fleece, improvement in color, and reduction in labor costs for grading and sorting by performing these operations away from large cities where higher wages prevail.

The firm entrenchment of the present wool-marketing system is the principal reason why the woolen and worsted industry has resisted decentralization longer than other industries formerly concentrated in the East and Northeast. But the success of mills now operating in the Southeast, the Midwest, and on the Pacific Coast indicates that there will be further decentralization of this branch.

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Textile manufacturers find it an ideal bleaching agent for wool, silk, rayon, cotton yarns and woven cotton fabrics. That's because Pennsalt $H_2O_2$ is

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Pennsalt Hydrogen Peroxide is furnished in 100 volume and 130 volume strengths in 120 lb. carboys and 265 lb. drums. Our technologists will gladly aid you with your bleaching problems. Consult them, or write to us direct for specific information about $H_2O_2$ and other Pennsalt products.

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ing and combing plants in Missouri is economically sound. However, current practice in the industry makes this a dangerous venture except with experienced management and assurance of a steady market for the output.

The location of scouring and combing plants in Missouri would be promoted by having more grading and sorting done in the field or at western concentration points. Eastern mills could then buy wool on certificate and have it scoured and combed in transit.

The minimum capacity of an independent wool scouring and combing plant, for efficient operation, is estimated at 2,000,000 lb. a year. The cost of a complete plant of this kind would vary considerably with location and details of equipment. One estimate allows about $1,000,000 for a plant to produce 10,000 lb. of top per day, and another estimate allows about $200,000 for a plant to produce 5,000 lb. of scoured wool per day.

Missouri has the advantage of a location where a variety of wool can be assembled economically and where finished goods can be distributed economically to western and southwestern markets.

**MISSOURI WAGE SCALE.** The wage scale in Missouri is slightly higher than in the Southeast but lower than in the Northeast.

The operation of woolen and worsted mills becomes more complicated than the operation of cotton mills when mills use varieties of wool that are not available locally. In this respect, the cotton-textile industry is much more flexible than the woolen and worsted industry. Cotton is sampled and graded wherever it is produced and cotton from any part of the country can be bought anywhere, so a mill can assemble cotton intelligently from a number of points and do its own blending.

In contrast with the more effective cotton-marketing system, wool has to be shipped east to be sold and then shipped back to the mill, unless the mill is limited to comparatively few varieties always available from well-known sources.

**FOREIGN WOOL COMPETITION.** Another complication in the case of wool is that foreign wool is highly competitive with domestic wool and often cheaper. Woolen and worsted mills often change from domestic to foreign wool and vice versa as the market for one or the other is more favorable A scouring plant, top-making plant, or mill altogether dependent on domestic wool might fail during a period when foreign wool could be obtained by competitive mills at lower prices. The conclusion is that independent scour-

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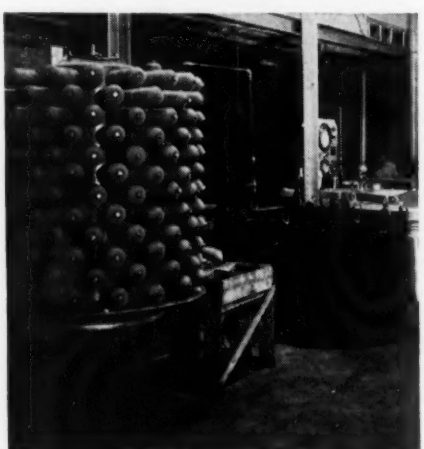

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# Rayon Reports

...ared Monthly by American Viscose Corporation, New York, N. Y. October, 1947

## 4 Pocket-Size Calculating Aids Devised by Viscose

Four vest-pocket, high speed calculators devised by American Viscose are being offered to technicians, purchasing agents and salesmen in the textile industry.

**Warp and Filling Estimator**—One of these devices quickly calculates the warp and filling requirements for a given yardage order, in 75, 100, 120 and 150 denier. It also shows the number of yards a mill can turn out from a given poundage. The warp scale runs from 100 to 10,000 ends, with 5% take-up included, while the filling scale runs from 20 to 100 picks per inch, in steps of 4.

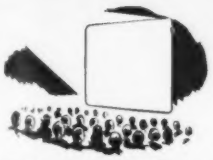
**Fabric Weight Converter**—The fact that rayon is processed on the cotton, silk, worsted and wool systems created the need for the fabric weight conversion table. It quickly shows that a 10½-ounce fabric by one system, for example, is the same as a 1.52-yard fabric—or even a 65.63-pound fabric—on the cotton system. That is, the cloth runs 10½ ounces to the yard, 1.52 yards to the pound, and 65.63 pounds to the 100 yards or average size bolt.

**Denier Conversion Table**—Similarly, a denier conversion table permits cotton, worsted and woolen technicians to convert quickly to their own weight systems the weight of rayon, as expressed in deniers from 10 to 5,000.

**Spinning Twist Calculator**—The fourth aid is a spinning twist calculator, useful in ordering yarn spun on the cotton system.

For example, a fabric designer knows that he needs a fairly high twist for a gabardine. By referring to this table, he sees that for a 30/1 cotton count of desired quality, he must order a yarn with a twist multiplier of 4.00 to 4.50. The table runs from a count of one to 120, with twist multipliers of 3.00, 3.25, 3.50, 3.75, 4.00, 4.50 and 5.00.

## RAYON 20 YEARS AGO



NEW YORK, Oct. 1927—"The Romance of Rayon," first movie in America to show how rayon is made, has just been released by The Viscose Co.

NEW YORK, Oct. 1927—Attracting wide interest this fall is the use of rayon in pile fabrics and tricot knit underwear.

MANCHESTER, Eng., Oct. 1927—Capacity crowds attended the recent rayon show—the first British rayon show ever held outside London.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

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EXCELLENT FOR

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- matching colors
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Portable Battery and Electric Models Available with 5, 7, 20, or 40 Power Lenses.

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ing and top-making operations in Missouri should be attempted only after assurances that a sufficient variety of wool could be graded, sorted, and processed in transit on its way from western producers to mill.

The corresponding conclusion with reference to woolen and worsted manufacturing in Missouri is that the best opportunities are for mills which make plain woolen fabrics, such as blankets and plain-dyed fabrics, and which can carry out their own scouring operations.

The following comparison of the most desirable southeastern location with Missouri is offered to show how the most significant items which affect location vary in the two areas:

| Cotton Mill Requirements | Southeast | Missouri |
|---|---|---|
| 1. Homogeneous, English-speaking population | About the same | About the same |
| 2. Availability of experienced labor | Available | None |
| 3. Productivity of labor | Good | Good |
| 4. Wage scales | Slightly lower | ——— |
| 5. Housing | About the same | About the same |
| 6. Cost of living | Below average | Below average |
| 7. Competition with high-wage industries | Little | Little |
| 8. Labor legislation | Fair | Fair |
| 9. Taxation | Below average | Below average |
| 10. Attitude toward industry | Good | Good |
| 11. Local capital available | Limited | Limited |
| 12. Climate | Mild | Mild |
| 13. Cost of power and heat | Low enough | Low enough |
| 14. Quality and cost of water | Good—low cost | Hard water—higher cost |
| 15. Transportation | Adequate | Adequate |
| 16. Accessibility to markets: | | |
| (a) East | Better | ——— |
| (b) Middlewest and Northwest | ——— | Better |
| (c) West and Southwest | ——— | Better |
| 17. Accessibility to style centers: | | |
| New York | Better | ——— |
| St. Louis and Kansas City | ——— | Better |
| California | ——— | Better |
| 18. Effect of buying habits | Favorable | ——— |
| 19. Convenience for executives and buyers | Nearer N. Y., Phila., & Boston | ——— |
| 20. Proximity to population center of U. S. | ——— | Nearer |
| 21. In line with trend of population & buying power | ——— | Nearer |
| 22. Accessibility to raw materials | About the same | About the same |
| 23. Accessibility to existing finishing plants | Nearer | ——— |
| 24. Cost of building | About the same | About the same |

## *Useful Accessories for Textile Mills*

### Fluid-Power Transmissions

The Oilgear Co., 1301-1417 W. Bruce St., Milwaukee 4, Wis., has announced a new range of hydraulic variable-speed power transmissions. Each transmission consists of a volumetric, variable delivery, radial-rolling piston pump driving a constant displacement radial-rolling piston motor. Inherent features include a hand screw control for accurate setting of output shaft speed, a control for instantaneous and stepless variation of output shaft speed in either direction, and a control for remote selection and control of preset speeds in either direction, or fast and slow speeds in one direction.

### All-Purpose Floor Machine

A powerful motor-driven floor brush capable of performing scrubbing, polishing, waxing, sanding, steel-wooling, etc. has been announced by Breuer Electric Mfg. Co., Chicago, Ill. Usable on any type floor or covering with a simple interchange of brushes, the cleaner is available in five models, ranging from ¼ to 1 hp. with brushes from 12 to 20 in. diameter. All models are equipped with a solution tank feeding to the base of the bristles, splash-proof motors, and completely enclosed gears.

### Hydraulic Drum Truck

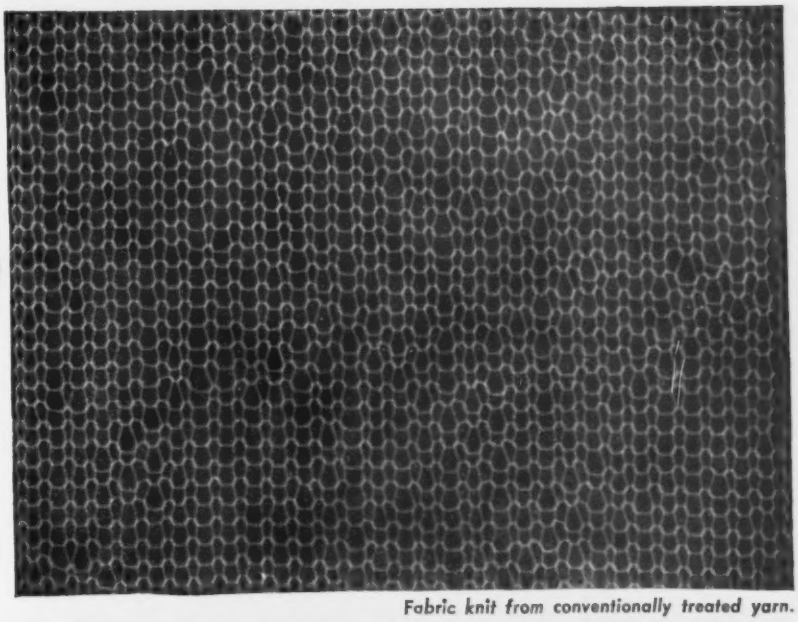
The new hydraulic drum truck manufactured by Allied Welding & Manufacturing Co., 49 Lorna Doone Blvd., Orlando, Fla., is designed to fit the standard metal drum and is equipped with a 1½-ton automobile hydraulic jack. Principal features include ease in handling and transporting drums and in their stacking. Each drum truck is equipped with lift hooks, and drums can be stored two or more deep under drum-height shelving.

### "One-Man Bridge Ramp"

A new type of ramp designed for use with fork trucks between railroad platforms and cars, with a load capacity of 15,000 lb. is being produced by Elizabeth Iron Works, P. O. Box 360, Elizabeth 13, N. J. The ramp can be placed and secured by one person in less than two min., it is claimed; and provision is made for securing the ramp firmly in place. Sizes and types are available for gaps from 5 to 58 in., with differences in height up to 7 in.

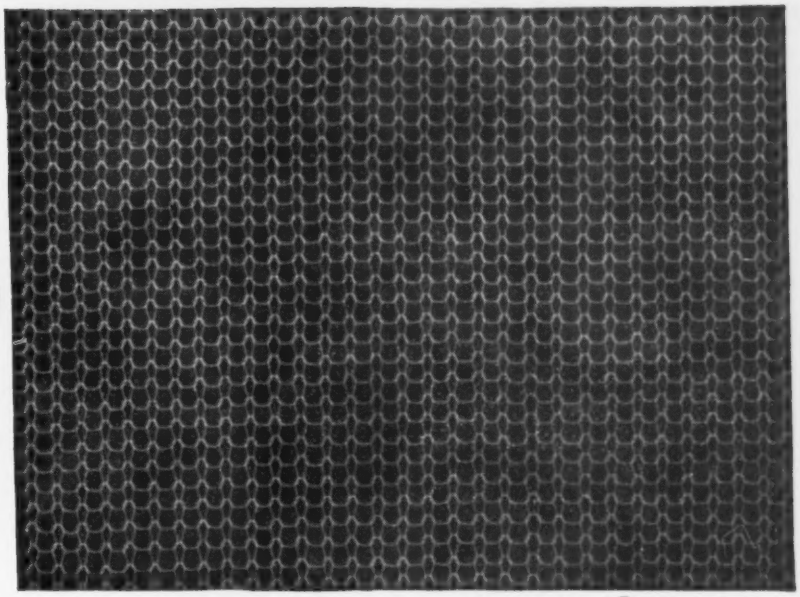
(*Continued on page 238*)

# Is your stitch like this



*Fabric knit from conventionally treated yarn.*

# or like this



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**OUTSTANDING ADVANTAGES...**

- ... Controlled viscosity, assuring even distribution of oil on yarn
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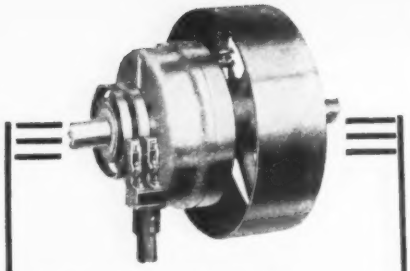

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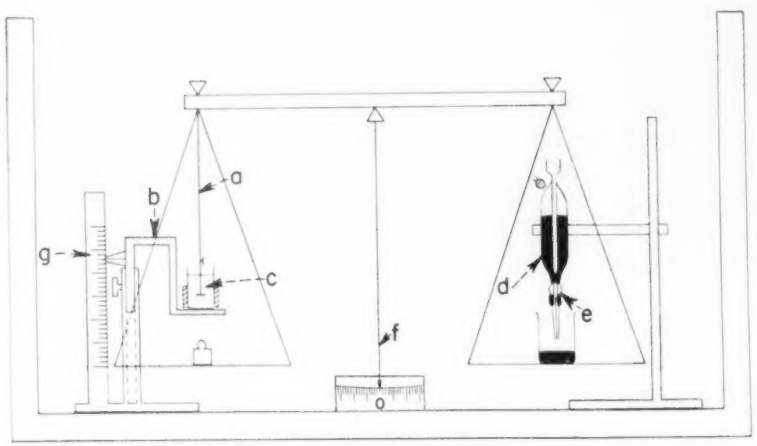
# Standard Daylight Lamps Suggested For COLOR MATCHING

***HIGHLIGHTS:**—Extensive tests made of quality and quantity of daylight and artificial light for color matching—7500° K and 75 to 300 foot-candles recommended for use.*

ARTIFICIAL DAYLIGHT LAMPS having a color temperature of 7500° K and producing between 75 and 300 foot-candles have been recommended for standard use by a committee of the Inter-Society Color Council.

The recommendation is submitted as the result of research undertaken at the request of the AATCC to determine (1) what color of natural daylighting is used by color matchers, and (2) what color of artificial daylight is preferred by textile color matchers. With the cooperation of the U. S. Quartermaster Corps, Forstmann Woolen Co., Botany Worsted Mills, and Pacific Mills, the committee collected hourly records for 30-day periods on the amount and quality of natural daylight used by color matchers in each cooperating mill, and made records of examinations by over 80 matchers on fine groups of samples under controlled conditions of illumination in which color temperature was the chief variable.

The results showed a wide variation in foot-candles and color temperature according to hour, season, and sky condition. Comparison of results under artificial daylight to those obtained under natural daylight show 7500° K to give the best agreement, everything considered.



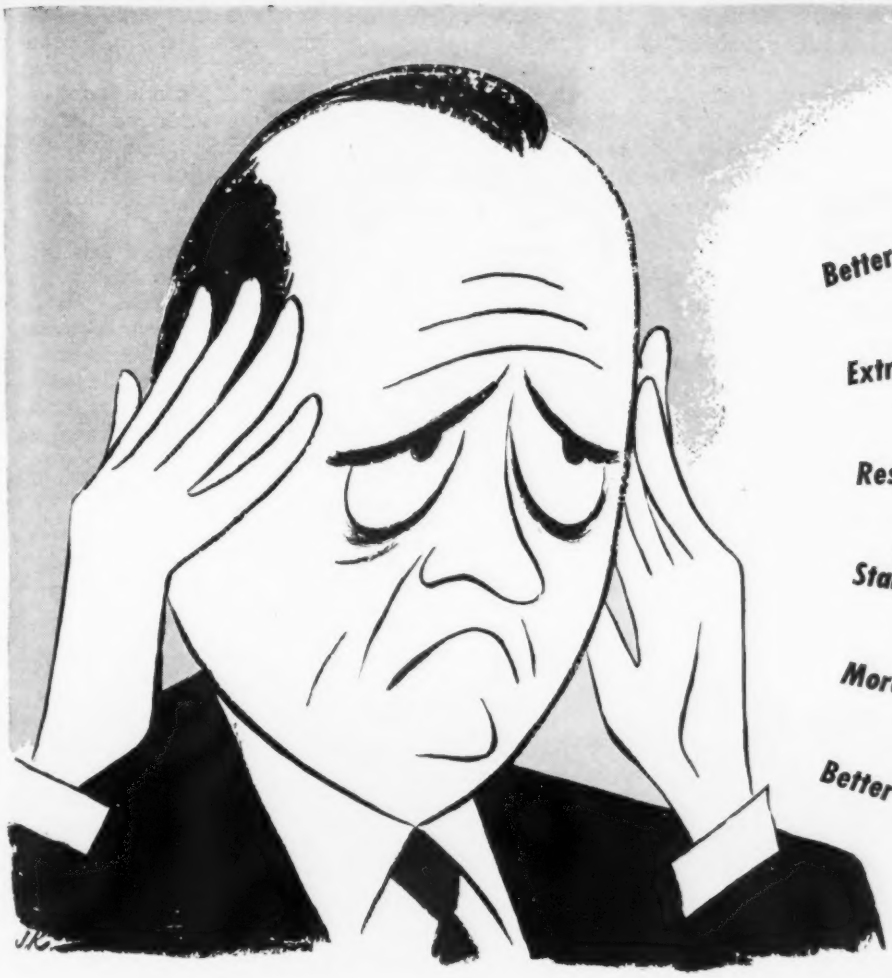

*The balancing of cohesive forces of a gel against a gradually increasing quantity of mercury is involved in the new gel-strength measuring device.*

# New Device Measures GEL STRENGTH

***HIGHLIGHTS:** Disk is embedded in beaker of gel and balance measures pull—Suitable for gelatin and for starch—Grams per square centimeter are found.*

AN IMPROVED METHOD for more precise measurements of the tensile strength of gels has been developed by W. J. Hamer, of the National Bureau of Standards. This procedure, which gives the strength or "yield value" and resistance to deformation of the material under study, essentially involves the determination of the shearing force necessary to fracture the gel as given by the weight of mercury required to pull a standard disk from the gel in which it is imbedded. The method may be applied to all types of gels and used in the study of starches in following small changes in starch pastes.

A brass disk is suspended in a beaker containing the gel by means of a wire, *a*, attached to one beam of an analytical balance. An adjustable platform, *b*, over the balance pan sup-



*Better wetting action?*

*Extra strength detergency?*

*Resistance to hard water?*

*Stability to acid or alkali?*

*More level dyeing?*

*Better dispersion and rewetting?*

**ALKANOL* B**
**ALKANOL* RW**
**ALKANOL* WXN**
**DUPONOL* D**
**DUPONOL* G**
**DUPONOL* LS**
**DUPONOL* WA**
**DUPONOL* 80**
**HYDRAPHTHAL***
**MP 189**
**MERPENTINE***
**MERPOL* B**
**MERPOL* C**

*TRADE MARK

# What's your headache?

Losing sleep—or money—over any of these problems? Let Du Pont help you. Our technical staff will gladly lend a hand—help you select the proper Surface Active Agent or work out a special combination to fit your specific need.

The supply of these products is gradually catching up witn demand. It might be good business for you to let Du Pont Surface Active Agents help carry your textile responsibilities. Du Pont know-how and years of textile research are at your service. Organic Chemical Department, Fine Chemicals Division, E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

# DU PONT SURFACE ACTIVE AGENTS

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

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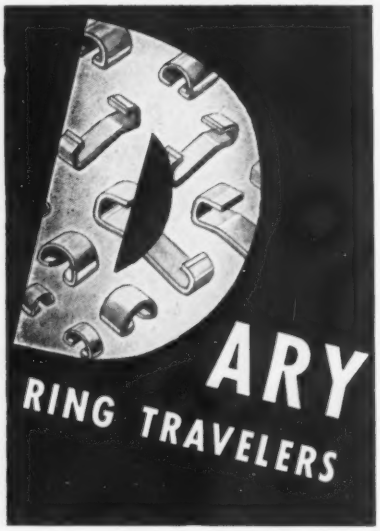


# In the Ringside Seats

# It's DARY!

Whether it's the boxer in the prize ring or the traveler on the ring rail, to those who know, *performance* counts.

That is one big reason why Dary Ring Travelers are the undisputed champions with mill men everywhere. There is a Dary traveler for every count or twist of yarn and every one is DARY PROCESSED for 100% performance. Get a *ring*side seat with DARY, the winner and still champion after 50 years of competition.

There is a friendly Dary Representative near you. Call him today.

**The DARY RING TRAVELER CO.**
TAUNTON, MASSACHUSETTS

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
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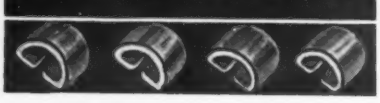
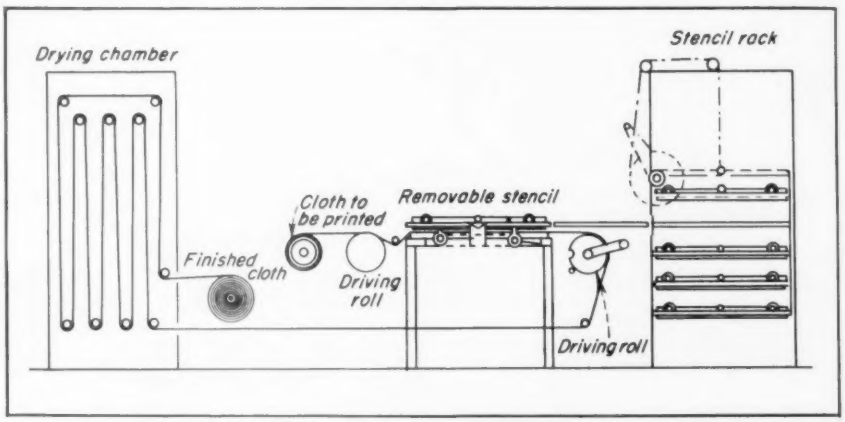



ports the beaker c. The gel is covered with liquid petrolatum to prevent "skin" formation. Mercury is added from a burette, *d*, at a constant rate to a container on the other pan. Different flow rates are made possible by use of a removable capillary tip held to the burette by a rubber tube, e. The capillary tip is calibrated before use by weighing the mercury it delivers in a given time. As the mercury is added, the height of the platform is changed manually, so that the pointer, *f*, of the balance is always kept at zero. A vertical scale, g, indicating the height of the adjustable platform is read at frequent regular intervals until the gel is broken.

The weight of mercury required to produce a fracture in the gel, divided by the area of the brass disk gives the gel strength in grams per square centimeter. The rate of change in height of the adjustable platform gives an indication of the resistance the gel offers to deformation. A fast rate means that the gel is easily deformed, whereas a slow rate indicates that the gel resists deformation and is probably quite rigid. Although rigid gels usually offer high resistance to deformation, this is not always true.

This method has a precision greater than 0.5%. Its limitations lie more in the reproducibility with which gels can be prepared than in errors inherent in the method. It may be applied to all types of gels, whether they are of the reversible (gelatin) or irreversible (starch) type.




*Any one of the several screens at the rack at the right may be rolled onto the table, the design printed, and the cloth moved by successive design-lengths to the dryer at the left.*

# Mechanized SCREEN PRINTING Eliminates Long Tables

**HIGHLIGHTS:** *German machine saves space required for screen printing—Operated by one man—Movable rack holds many stencils—Stencils mounted on wheels move on tracks to table.*

A MECHANICAL METHOD of silk-screen printing which eliminates long tables, requires only a small space, and eliminates table washing has been developed in Germany*.

The machine consists essentially of a printing table, the same size as the screen, made of marble or plywood on a solid base. On one side of the table is a frame holding a number of screens on shelves which can be raised or lowered and from which individual screen frames on wheels can be pushed along guiding rails to the printing table. The fabric is drawn from a roll onto the printing table by two driving rollers, one on each side of the table. After printing, the fabric is drawn by another set of rollers across the table exactly one screen width, the fresh surface printed, and the process is repeated. The printed fabric passes under the table and goes to a dryer located beside the work table.

Color is applied by the normal hand-squeegee method, and all printing and mechanical operations are carried out by one man from a fixed position.

Selvages of the cloth are not printed for a width of about 3 mm. in order to prevent side-flushing from color printed on the table itself, since they are printed without back-grays.

* From *"Textile Printing in Germany"*, a report issued by Office of Technical Services, Dept. of Commerce, Washington, D. C. Available from Hobart Publishing Co., Box 4127, Chevy Chase Br., Washington 15, D. C., at $2.50.

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CHEMICALS

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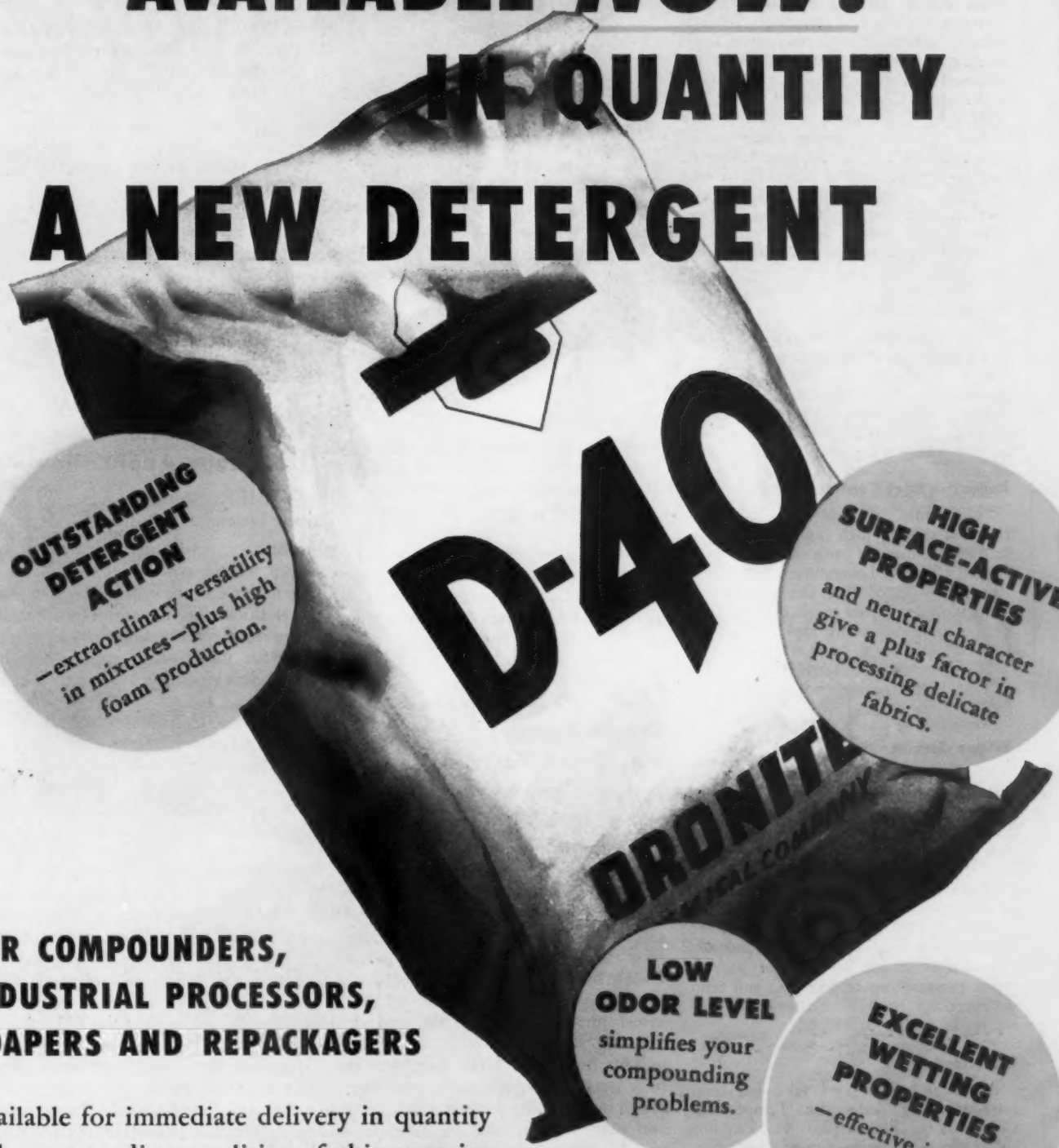
THE NAME TO WATCH IN CHEMICALS

# AVAILABLE *NOW!*

## IN QUANTITY

# A NEW DETERGENT




**OUTSTANDING DETERGENT ACTION**
—extraordinary versatility in mixtures—plus high foam production.

**HIGH SURFACE-ACTIVE PROPERTIES**
and neutral character give a plus factor in processing delicate fabrics.

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simplifies your compounding problems.

**EXCELLENT WETTING PROPERTIES**
—effective in acid or alkaline medium.

**FOR COMPOUNDERS, INDUSTRIAL PROCESSORS, SOAPERS AND REPACKAGERS**

Available for immediate delivery in quantity —the outstanding qualities of this superior detergent make it a top choice in the compounding, textile processing and in the industrial cleaning fields.

# ORONITE CHEMICAL COMPANY

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## Useful Accessories For Textile Mills

(Continued from page 232)

### Electronic Positioning Control

An electronic positioning control system, designed for such applications as accurately controlling inaccessible dampers from control stations on the floor, or opening, closing, and adjusting valves and gates to intermediate points from a single coordinated control desk, has been announced by the Control Div. of the General Electric Co., Schenectady, N. Y. The system has three parts, a master control station, a follow-up device which can be either small selsyns or potentiometers, and an electric control panel which may be placed in any location, and which is connected to the control panel by only three control heads. Application can be made to all drives up to 1½ hp. and to some over this rating.

### Electrode Holder

A new, compact, light-weight addition to its line of insulated tongs-type electrode holders has been announced by Tweco Products Co., Wichita, Kan. It is a small holder which fills the requirements of the shop or maintenance welder using 200-amp. welding equipment.

### Reflective Roof Coating

"Gilsalume," a newly developed reflective roof coating with insulative and protective qualities, is now available from United Gilsonite Laboratories, Scranton 1, Pa. It is reported that this gilsonite asphalt aluminum roof paint deflects 70% of the sun's destructive rays and reduces interior temperatures by as much as 15° F. A gallon covers 300 to 400 sq. ft. at a cost of approximately one cent a square foot.

### Y-Type Strainer

A new Y-type strainer for steam, air, gas, oil, or water has been announced by Wright-Austin Co., 315 W. Woodbridge St., Detroit 26, Mich. It is claimed that this strainer largely overcomes back pressure through a new arrangement of interior surfaces and is self-cleaning by opening of a blow-off cock which flushes grit and dirt out of the strainer by line pressure without removing the strainer elements. These strainers are suitable for use on steam pressures up to 250 psi., and temperatures up to 450° F.; and for cold liquids or gas, up to 400 psi.

### Motorized Valve

A compact, motorized valve has been introduced by Automatic Temperature Control Co., Philadelphia 44, Pa., for automatic two-position (on-off) operation of valves for steam, air, gas, oil, or water. A rugged induction-type motor develops a positive power drive through a worm-and-spur-gear reduction. Limit switches are available for trouble-free service. The cast-iron housing is dust-tight and splash-proof. Either globe-type or butterfly valves in various models can be supplied.

## Dyes & Chemicals — Products & Processes

### Durable Moire Finish for Rayons

A durable moire finish unaffected by water spotting or by wet cleaning, consisting of a thermosetting resin which is heat-cured so that the moire effect becomes permanently a part of the fabric, has been announced by the Textile Resin Dept., American Cyanamid Co., 30 Rockefeller Plaza, New York, N. Y.

The new moire finish, applied to all-rayon or cotton-rayon bengalines may be laundered without injuring the effect, it is reported. The finish also imparts crease resistance, stabilizes the goods against dimensional changes, and gives a rich hand to the fabric.

The durable moire finish is applied by passing the goods through a bath containing the thermosetting resins in solution and drying the fabric at a low temperature before embossing. After the moire effect has been applied on the calender, the goods are cured so that the effect becomes permanently a part of the fabric.

### Brown Paste Has Good Fastness

PONSOL BROWN RBT PASTE, E. I. du Pont de Nemours & Co., Inc., Dyestuffs Div., Wilmington 98, Del.

Cocoa-brown shades having outstanding fastness to light and very good resistance to washing, chlorine, cracking, and cold and salt-water spotting may be obtained by use of Du Pont's brown paste, it is reported. It also exhibits good fastness to hot, moist pressing; perspiration; and dry cleaning.

This vat color gives excellent results by pad-jig application, pad-steam continuous dyeing process application, and may also be used in package or circulating-type dyeing machines.

The paste is a good base for chocolate and cocoa browns and is a suitable shading agent for numerous mixtures. It is especially well adapted to use on cotton and viscose rayon materials for sportswear, upholstery, draperies, shirtings, and uniform cloths.

### Orange Dye for Cotton and Rayon

PONSOL GOLDEN ORANGE 3G PASTE, E. I. du Pont de Nemours & Co., Inc., Dyestuffs Div., Wilmington 98, Del.

Rich, fast-to-light and to washing, yellowish shades of orange on all forms of cotton and viscose rayon are claimed for Du Pont's new orange paste. It may also be used as a shading element in producing khakis, browns, and olives; and is suitable for application by conventional methods in all types of dyeing equipment, and as a printing color.

Good resistance to severe washing and chlorine are reported, as well as fastness to light.

### Versatile Resin Has Many Applications

STYMER, Monsanto Chemical Co., 140 Federal St., Boston 10, Mass.

Stymer, a polymerized styrene base resin which may be used as a sizing agent for cotton, synthetics, and wool; as a thickening agent for print paste; as a finish for cellulose-base fabrics; and for many other applications has been developed by Monsanto Chemical Co.

The base resin is insoluble in water but is soluble in alkaline solutions. A large number of salts of Stymer are made by treating the solid resin with the appropriate hydroxide. Many variations in physical and chemical properties can be effected by changing the molecular structure. For instance, different types of resins may be formed by using different types of reactants during the manufacture, resins of different properties may be formed by varying the degree of polymerization of Stymer itself, different properties are created by varying the pH, etc.

As a sizing agent, it is claimed that Stymer is two to three times as effective as other agents, therefore smaller quantities can be used. Its weaving properties are almost independent of humidity or temperature changes, and static is reduced or eliminated.

Other uses reported are: as a finish on bonded-fiber webs; a pigment binder for fabric dyeing; a stiffening agent; an emulsifying agent; a hard, glossy finish on bonded yarns; and as a base size for shade cloth.

# THE HEADS

# Won't twist off!

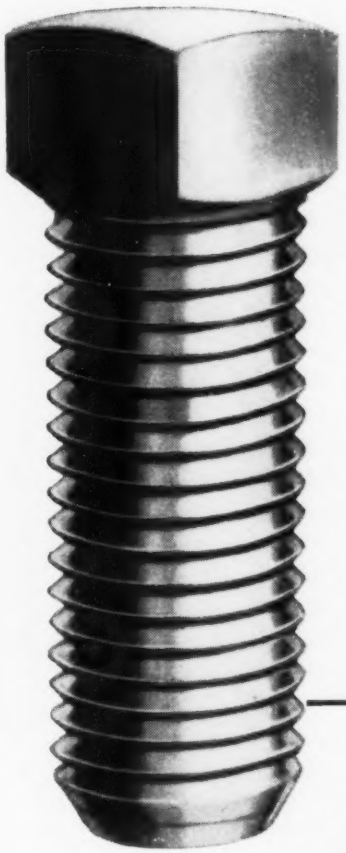


Fig. 1507-B

**UNBRAKO**

Reg. U. S. Pat. Off.

## SQUARE HEAD SET SCREWS

*If and when an "Old Style" Square Head Set Screw twists off——Boy, oh, Boy—what it costs to get it out, especially if it's in an awkward place.*

*The Unbrako "Won't Twist Off" Square Head Set Screw, made of a special alloy steel, saves all this—thus, reducing cost of maintenance materially.* **Write for the "Unbrako" Catalog of Screw Products.**

***"Unbrako" and "Hallowell" Products are sold entirely through Industrial Distributors.***

Fig. 509

**Illustration at left.** There was a blind tapped hole in this piece of steel. An Unbrako "Won't Twist Off" was screwed into it and forced through the bottom, splitting it three ways —nevertheless, the "Unbrako" didn't show a scratch, which speaks for itself.

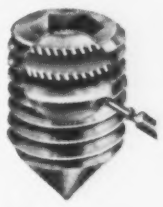
OVER 44 YEARS IN BUSINESS

**"UNBRAKO" SOCKET SET SCREW WITH KNURLED CUP POINT**

The knurled cup point of this "Unbrako" makes it a Self-Locker, the points dig in and hold fast even when subjected to the most chattering vibration.

**Pat'd and Pats. Pend.**

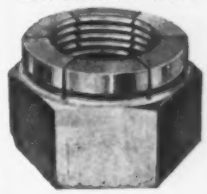
**"UNBRAKO" SOCKET SET SCREW WITH KNURLED THREADS**



Knurling the "Unbrako" Socket Set Screw, as shown, swages the threads and an excellent Self-Locker is the result—For use where the points such as: flat, dog, cone and oval do not lend themselves to knurling.

**Pat'd and Pats. Pend.**

**"FLEXLOC" SELF-LOCKING NUTS**



The All-Metal, One-Piece "Flexloc" is a Self-Locking Nut that won't budge, except when a wrench is used. Every thread—takes its share of the load and being a "stop" nut it will stay locked in any position on a threaded member—"a real fastener", if ever there was one. Free samples.

**Pat'd and Pats. Pend.**

**"HALLOWELL" KEY KIT**

**Pats. Pend.**

You can't screw socket screws in or out without a hex socket wrench, so why not get our No. 25 or No. 50 "Hallowell" Hollow Handle Key Kit which contains most all hex bits.

**STANDARD PRESSED STEEL CO.**

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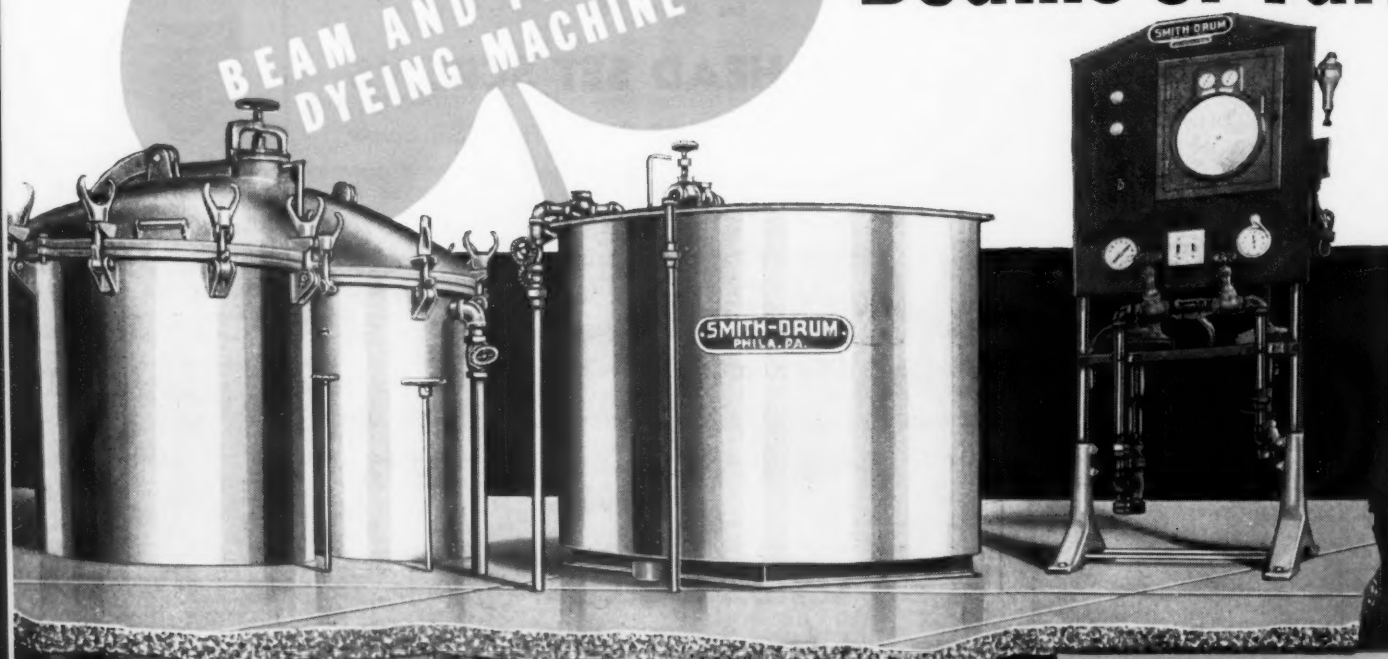
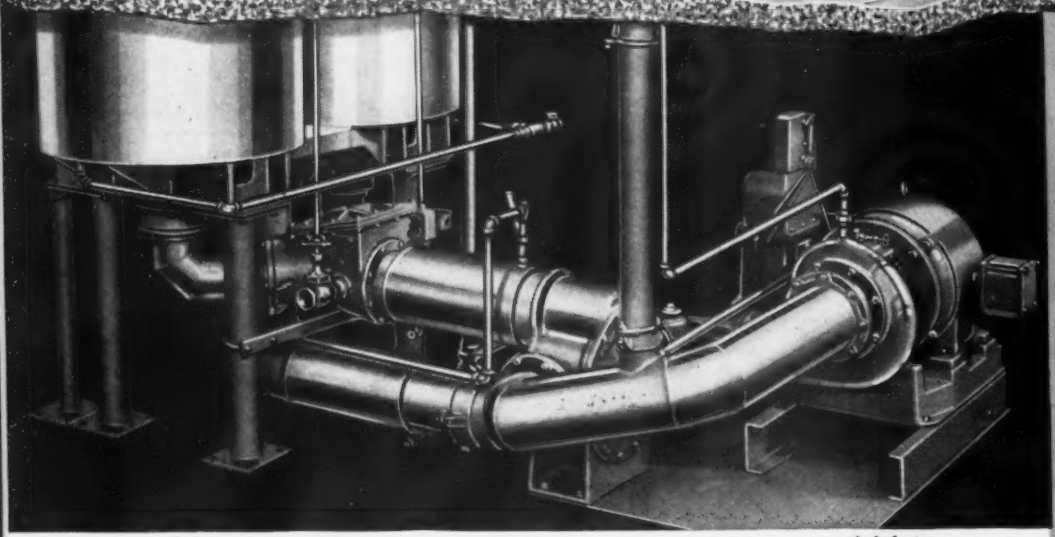
# The *Only* Machine That Will Dye 1, Beams or Yarn

SMITH-DRUM

*Clover Leaf*

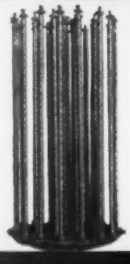
BEAM AND PACKAGE DYEING MACHINE

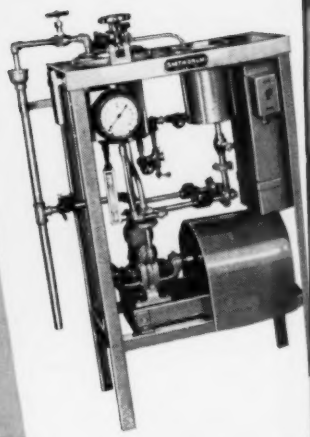


Stainless steel dye beams are manufactured by Smith, Drum for use with the Clover-Leaf Beam and Package Dyeing Machine.

Special package carrier supplied with Smith-Drum Clover-Leaf Machine. This is the type used with packages wound on large diameter tubes or springs.





**SAMPLE PACKAGE DYEING MACHINE** This machine, which dyes a single package, is for use in determining formulae to be used in larger machines. Sample is dyed under same conditions and control as in larger machines.

# Vanesta

## The Starch Stabilizer

## Stops Gelling
## Improves Flow
## Gives Uniform Consistency

Sample on request

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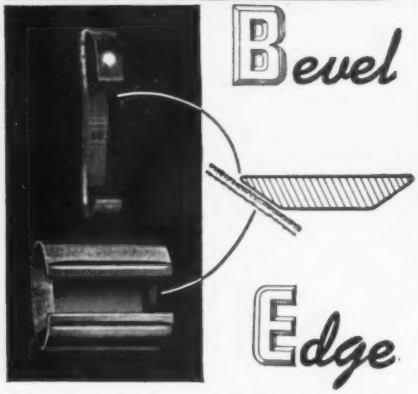


**Ideal for BLENDS**

**Bevel-edge travelers are especially useful in running blended yarns. The exclusive anti-friction design is a great aid in keeping end breakage to the minimum, while at the same time helping smoother running and more uniform tension. Our representative will gladly call and recommend appropriate sizes and weights.**

*A Style and Size for Every Textile Fibre*

**"U. S." offers a COMPLETE traveler Service—a complete line suited to every fibre and operation—complete engineering service assisting you in traveler selection and maintenance for maximum spinning and twisting production.**

**DEPENDABLE DELIVERY**
**PROMPT SERVICE CALLS**

**U. S. RING TRAVELER CO.**
AMOS M. BOWEN, President & Treasurer
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**H. R. FISHER,**
**Concord, N. C.—Box 83—Phone 8366**
**C. W. SMITH—H. J. SMITH,**
**Providence—Gaspee 0100**

*LAWMAKERS SEE RAYON PLANT—The rank and file of Ohio's lawmakers will have a clearer comprehension of industry's problems as the result of their visits to a number of Cleveland plants. More than 160 members of the State General Assembly, together with Governor Thomas J. Herbert, made the trip which included a visit to Industrial Rayon Corp. tire-cord plant. Hayden B. Kline, executive vice president of Industrial Rayon (left), is shown here explaining operation of a tire-fabric warping creel to the governor's daughter, Mrs. Metta Stevers; State Representative Elizabeth F. Gorman, of Cleveland; and Governor Herbert (left to right). Mrs. Margaret Rita Sargent, creel operator, is standing directly in front of the governor, with Hiram S. Rivitz, president of Industrial Rayon, on extreme right.*

American Wool Council, New York. A further effect was emphasized in the Sydney sales when the first lots of wool offered advanced from 25 to 30% over prices of June, 1947. The principal advances, the council added, were in those qualities of wools most acutely needed by this country.

**HIGH-SPEED SPINNING ON POT PRINCIPLE.** Moscow (McGraw-Hill World News)—The Soviet Textile Industry's Research Institute has developed a new yarn spinner which is reported to operate at 21,000 rpm., approximately three times faster than previous spindles. Output is claimed to be 2½ times greater than that on the usual spinning frame. The apparatus consists of a revolving metal cylinder, through the bottom of which yarn is admitted. Reacting to centrifugal force, the yarn winds in even layers on the interior walls of the cylinder. In case the machine stops, a special spring attachment prevents the pack of yarn from dropping. The yarn packages are automatically removed from the machine.

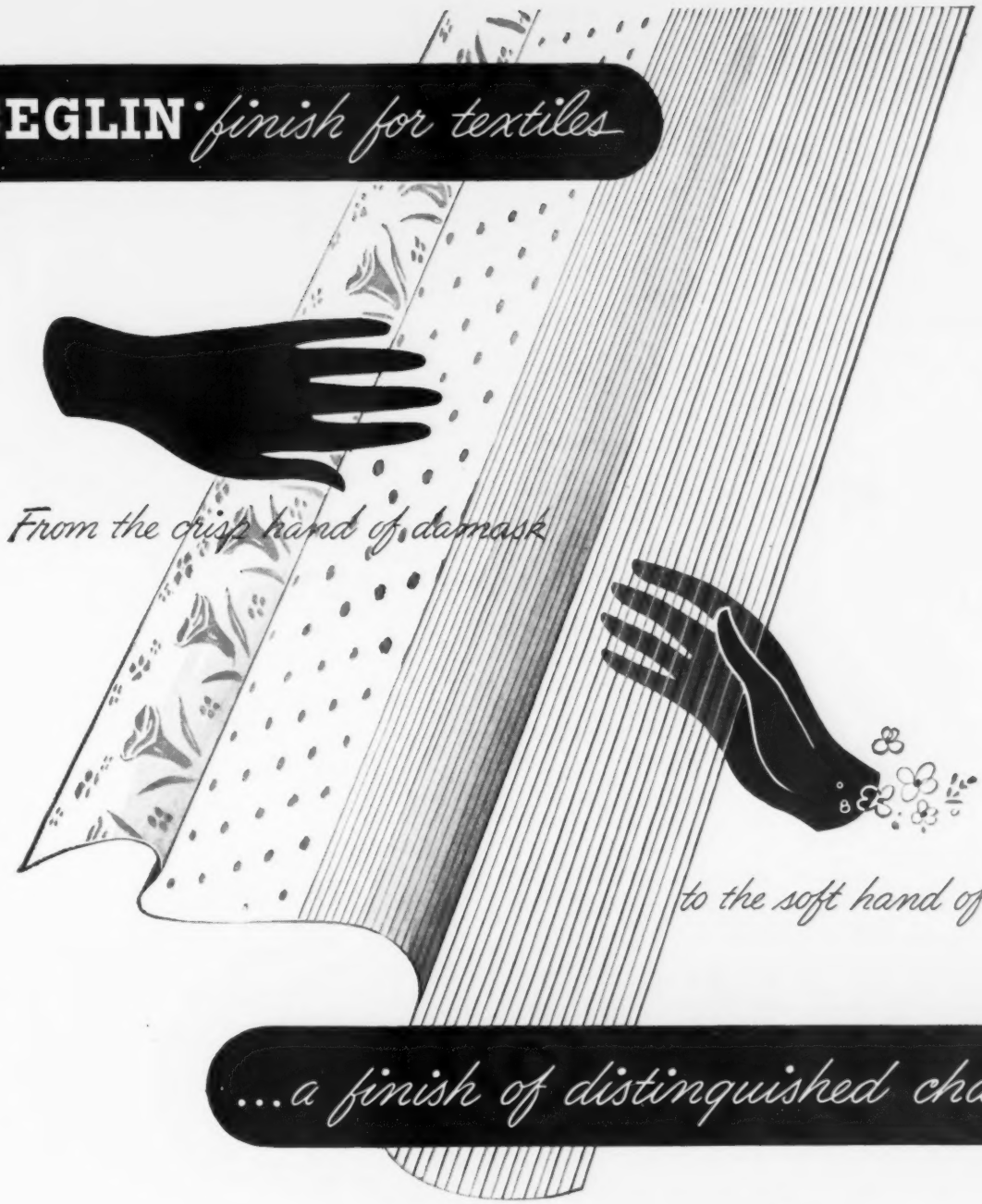
**CHEMICAL SHOW.** Postwar progress in the chemically controlled industries will be a significant feature reflected in the exhibits at the 21st Exposition of Chemical Industries at Grand Central Palace, New York Dec. 1 to 6. News from exhibitors indicates a marked trend in the development of materials and units of all types designed to meet extremely difficult operating conditions, notably in the way of very high pressures and temperatures, and powerful corrosive effects. The exposition will present an unusual variety of displays including industrial chemicals, chemical products, industrial materials, and supplies of many kinds, in addition to the wide range of equipment for the process industries. The roster of exhibits is reported to take all available exhibition space on the four floors of the palace.

**FIBER SOCIETY ELECTION.** Dr. Carl M. Conrad, Southern Regional Research Laboratory, New Orleans, was elected president of The Fiber Society at its fall meeting in Princeton last month. Dr. K. L. Hertel, University of Tennessee, was elected vice president; and the following officers were re-elected; R. T. Kropf, Belding Heminway Co., treasurer; and John T. Wigington, Cotton-Textile Institute, secretary. Elected to the society's governing council were J. C. Barnes and F. B. Breazeale.

**SHRINKPROOFING OF WOOL** John Vicars & Co., Sydney, Australia, has patented a method to reduce felt shrinkage in wool. The woolen goods are immersed in an aqueous solution of permanganic acids or salts of the same acid. The immersion continues, with or without the addition of acids, until the chemical action has proceeded to the extent required.

**MAY CHANGE O. D. TOLERANCE.** Following a meeting of Quartermaster Corps representatives with contractors who are producing the 18-oz. wool serge, olive drab, for the Army, at Philadelphia, a committee from the wool branch of the industry was named to act with the Quartermaster Corps in reviewing the present shade tolerance being used and to recommend any changes that might seem

# CEGLIN finish for textiles




## ...a finish of distinguished character

**CEGLIN INCREASES THE INTRINSIC VALUE OF FABRICS**

- aids in the stabilization of shrinkage and stretching
- promotes tensile strength
- increases resistance to slippage or distortion
- improves resistance to abrasion
- makes possible a wide range from crispness to softness

These qualities are then a permanent characteristic of the finished textile and remain durable through repeated laundering. Write for technical booklet giving complete directions for uses and application.

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***Manufacturers of cellophane and other cellulose products since 1929***
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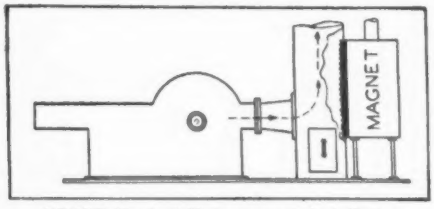
## MAGNETIC SEPARATORS

PROTECT MACHINERY... STOP FIRE LOSS...

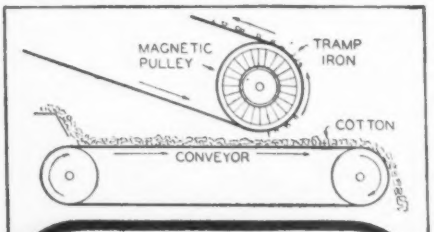
ECONOMICALLY!

Hundreds of applications in the textile field prove the efficiency and economy of MEMCO separators. They effectively remove all tramp iron, thereby preventing damage to garnett cylinders, and removing the major cause of opener-picker fires. MEMCO magnetic pulleys and plate separators are easy to install in any conveyor system. They require negligible maintenance and are available in sizes and pulling strength to meet the requirements of any application. MEMCO equipment is backed by a reputation earned in over a quarter century of experience in magnetic separation. For complete details write today.




MEMCO Vertical Plate magnet installation (above)—The corrugated bronze surface covering the magnet prevents friction sparks when iron strikes the plate. The accumulated iron is easily removed.

MEMCO Magnetic Pulley Separator (below)—This powerful magnetic pulley installed over the conveyor belt effectively removes all iron passing beneath it on the conveyor. Many other types of installation are employed, depending on the particular requirements.




MAGNETIC ENGINEERING & MFG. CO.
750 VAN HOUTEN AVE., CLIFTON, N. J.
AFFILIATED WITH TROWBRIDGE CONVEYOR CO.




desirable. Recommendation was made by a number of the contractors present that the shade tolerance be broadened in order to permit acceptance of goods which had previously been rejected, thus causing a slowdown in delivery by a number of these contractors. Recently, the Quartermaster Corps circulated to a large group in the industry a suggestion to permit the use of a small amount of Red S dye in one of the three primaries as a means of overcoming the tendency to shade off on the green side. Members of the shade-tolerance committee are: E. E. Whitman, William Whitman Co.; Mr. Nelson, Uxbridge Worsted Co.; Herbert Pleat, Yorkshire Worsted Co.; Mr. Fox, Prudential Worsted Co.; Mr. Leary, Lowell Top Dyeing Co.; Mr. Templeton, Botany Mills.

**SINGLE STANDARDS DIVISION.** A single Commodity Standards Div., which consolidates the Commercial Standards Div., and Simplified Practice Div. of the National Bureau of Standards, Washington, has been arranged by Dr. E. U. Condon, director of the bureau. The new division will continue the bureau's coordinating role in the development of voluntary simplified practice recommendations and commercial standards with industrial and technical groups. In addition, the division will be responsible for coordinating bureau work for the Federal Specifications Board. Edwin W. Ely, former chief of the Simplified Practice Div., has been appointed as chief of the new division; and F. W. Reynolds, former acting chief of Commercial Standards Div., has been called assistant chief.

**COTTON INSULATION PROGRAM.** The U. S. Department of Agriculture has continued for 1947-48, at a lower incentive rate, its program to promote the use of low-grade, short-staple cotton in the manufacture of insulating materials used in homes and other structures. This program is part of the department's efforts to develop increased markets for cotton of the qualities for which farmers have the greatest difficulty in finding outlets. During the 1947-48 fiscal year, manufacturers who hold approved applications will receive 5¾¢ per lb. gross weight, on cotton used in compliance with the program provisions. Rate of payment under last year's insulation program was 7½¢ per lb., and for 1945-46, 9¢. Payments in previous years have been made on the finished insulation, instead of the gross weight of cotton used. This year's rate would be equivalent to approximately 6¢ per lb. for the finished product. In the 1946-47 year, 50,000 bales came under this program.

### BE PREPARED FOR FIRE!

**Fire Prevention Week, Oct. 5 to 11, 1947**

*1. KNOW WHERE THE NEAREST FIRE BOX IS. Many homes and stores are destroyed by fire because nobody knows where to turn in the alarm.*

*2. LEARN HOW TO OPERATE FIRE EXTINGUISHERS. Prompt use of fire extinguishers and other emergency equipment has put out 60% of all fires, fire protection experts say.*

*3. CONDUCT FREQUENT FIRE DRILLS. Home owners are finding it's good insurance to teach members of the family what to do when a fire breaks out. In schools, offices, and industrial plants this is a "must."*

*4. RECOGNIZE AND REMOVE FIRE HAZARDS. Some of the most dangerous fire hazards are the most easily removed. Be on the lookout for oily rags, rubbish accumulations, frayed wires, improper fuses, faulty furnace pipes, and discarded matches.*

*5. BE ON THE ALERT FOR FIRE. Fire strikes when you least expect it. All blazes are small at the start. More can be done in the first five minutes to fight fire than in the next five hours.*

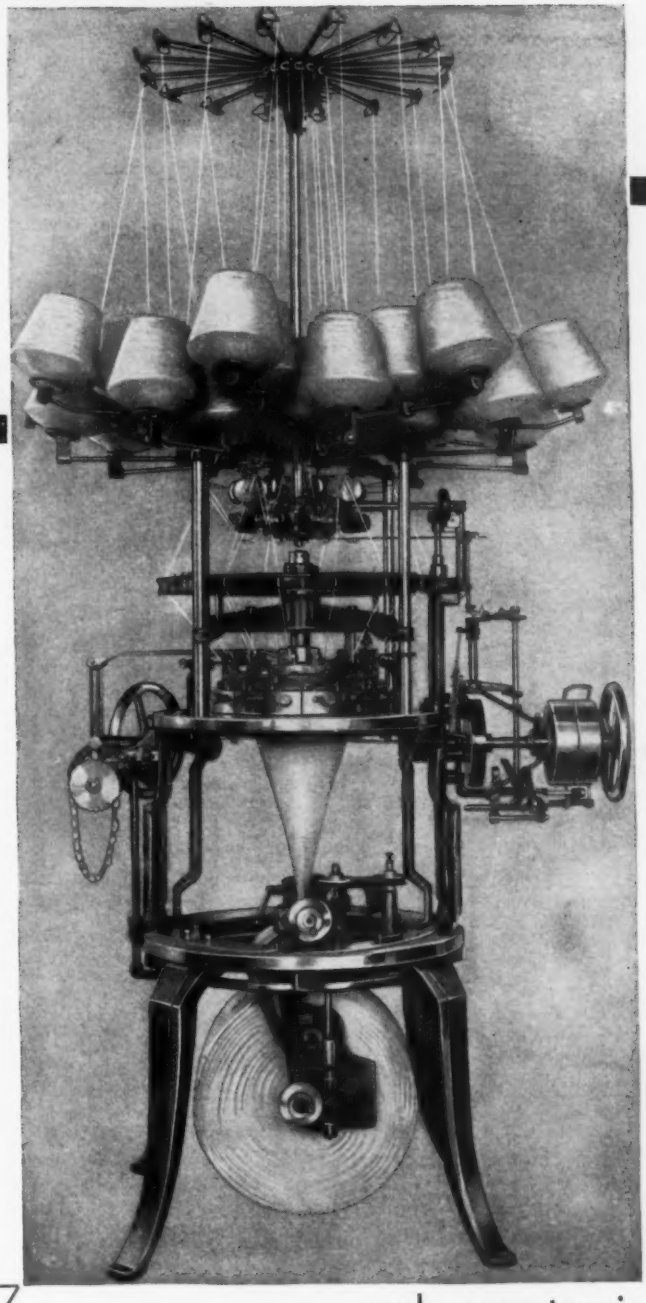
**VISCOSE CORP. RELEASES MOVIES.** Stockholders were invited by American Viscose Corp. to view two motion pictures of the rayon industry in its New York office on Sept. 3. "Science Spins A Yarn," a 23-min. Technicolor film on the history and growth of rayon, which is intended primarily for school and club audiences, was shown. "How Rayon Is Made," a 15-min. film picturing in a more technical way the production of both viscose and acetate rayon, was also shown. Both pictures were made under the direction of the corporation.

**RUSSIA IMPROVES KNITTING MACHINE.** Moscow (McGraw-Hill World News)—The Soviets are reported to have started mass production of an improved automatic hosiery-knitting machine. The main feature of the new machine is said to be a new-model needle socket which raises output 30%. A special device applies paraffin to the needles.

**GLASS-YARN REINFORCEMENT.** A Fiberglas yarn, for use in reinforcing waterproof paper, is announced by Owens-Corning Fiberglas Corp. following development carried on cooperatively by Fiberglas and paper manufacturers. Waterproof paper so reinforced is now being produced commercially by three companies.

# WILDMAN
## MULTIPLE-FEED
# RIB MACHINE

*the answer to*
*BIGGER*
**VOLUME**
*BETTER*
**STYLING**
*UNIFORM*
**SIZES**



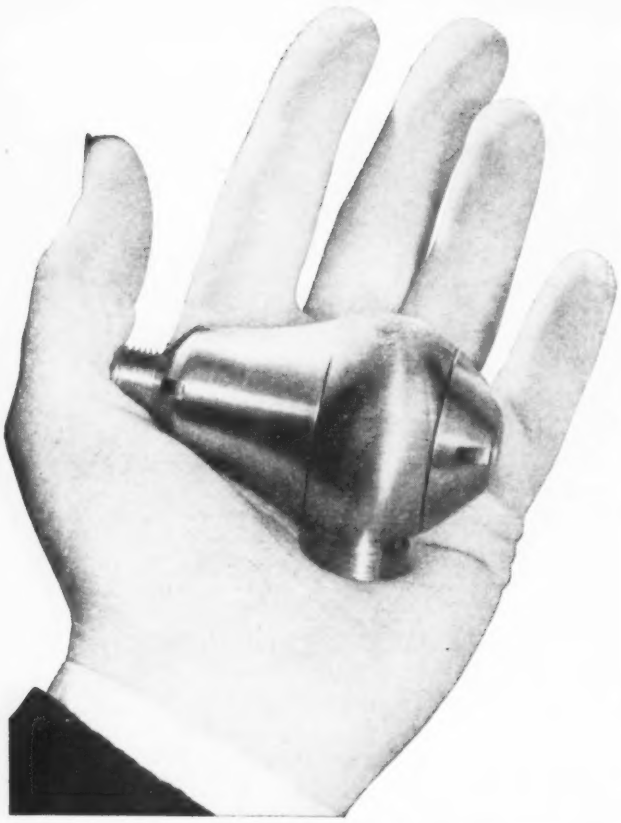
This famous knitting machine will actually DOUBLE production or better on the same floor space now occupied by your old-fashioned 8-feed machines.

It will multiply style opportunities in knitted wear of every description.

It feeds yarn under such even tension that uniformity in garment sizes is a natural result.

May we tell you more about it?

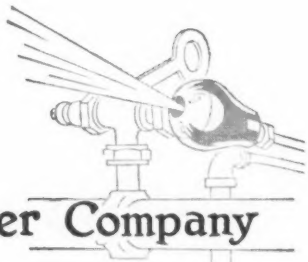
**WILDMAN MFG. CO.**
•
**Norristown, Pa.**



# A Most Profitable Investment

While complete Air Conditioning is ideal in textile operations, adequate and closely regulated direct humidification is yielding extremely high returns for the more modest investment involved.

Best form of direct humidification is the atomizer. For 40 years, representative textile managers have relied on Parks Turbo type atomizers and the conservative engineering practices of



**Parks-Cramer Company**

Fitchburg, Mass. Charlotte, N. C.

## NEWS ABOUT Suppliers

**American Paper Tube Co.,** Woonsocket, R. I., and Greenville, S. C., has appointed Samuel F. Adams, Atlanta, Ga., to be its sales representative in Georgia, Alabama, and Tennessee, operating from the Greenville office. Mr. Adams attended Georgia Tech and had several years of practical textile experience with Fulton Bag & Cotton Mills previous to World War II. During the war he served as captain in the Army Air Corps. Frederick L. Chase, Jr., will be the company's Eastern sales representative, effective Sept. 22, traveling from the Woonsocket office. He previously held this post with the company from January, 1938, until June, 1942, when he joined National Ring Traveler Co., Pawtucket, R. I., as assistant to the treasurer. From 1925 to 1938, he was with F. A. Chase & Co., manufacturers of paper tubes, which company was operated by his father. In 1938, this business was sold to American Paper Tube Co. During the war, Mr. Chase served as a Red Cross field director. He has been secretary-treasurer of the Southern New England Textile Club since 1933. The American Paper Tube Co. has appointed Hugh Williams & Co., 47 Colborne St., Toronto, 1, Ontario, as exclusive Canadian representative to the textile trade. The temporary, restricted representation by W. J. Westaway Co. has by mutual agreement been terminated.

**Hunt Machine Works, Inc.,** is the new corporate name of Mountain City Foundry & Machine Co., 72-year-old textile-machinery manufacturing plant, and Hunt Loom Co., builders of weave-room machinery and equipment. The two companies merged into a $2,000,000 corporation with John O. Hunt as president, as indicated in these columns last month. William Earle Henderson has resigned as vice-president of the South Carolina National Bank to become secretary-treasurer and a director of the new company. Yvonne B. Hunt is vice president. The company will continue its expansion program.

*RODERICK F. MAKEPEACE has been appointed New England representative of Cloverleaf-Freeland Corp., Hazelton, Pa. For the last 15 yr., Mr. Makepeace has been in the sales division of U. S. Bobbin & Shuttle Co., serving as vice president and director of this company in Providence. He was previously with Nashawena Mills, New Bedford, Mass.; Hamilton Mfg. Co., Lowell, Mass.; and Berkeley Mill of Lonsdale Co., Providence. Temporarily, Mr. Makepeace will make his headquarters at 9 Rhode Island Ave., Warwick Neck, R. I. Eventually he will be located at Providence.*

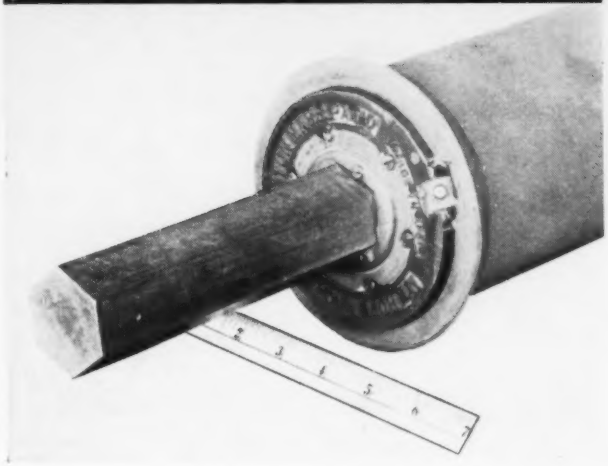
**Robert Reiner, Inc.,** Weehawken, N. J., has a new Simplex machine almost ready for introduction.

**Boger & Crawford,** Philadelphia has appointed Ira B. Wattis as its Pennsylvania, New Jersey, and New York sales representative, effective as of Sept. 3.

**Nopco Chemical Co.,** Harrison, N. J., has appointed Frank J. Chadwick to replace Edson K. Rice, retired. Mr. Chadwick will service the accounts of both Nopco and Metasap Chemical Co. throughout Wisconsin, Minnesota, and North and South Dakota. Accounts formerly handled by Mr. Chadwick in Manhattan will be covered by Thomas J. Campbell. John J. McCloskey, Jr., has been assigned the Long Island, Brooklyn, and Queens territory.

**Nuodex Products Co., Inc.,** Elizabeth, N. J., as added J. C.

# Mount Hope SEALED END EXPANDER



## Protected for "Wet" Operations

Here is the latest improvement in the Mount Hope "Free-Wheeling" Expander. It can now be furnished with end seals for handling wet fabrics in wet or steamy surroundings. When conditions are such that liquid will run into the ends of the expander, it is desirable to seal the ends so that the inner parts will be protected. Mount Hope Sealed End Expanders are so protected. The original free turning quality of the expander is not affected by the seal.

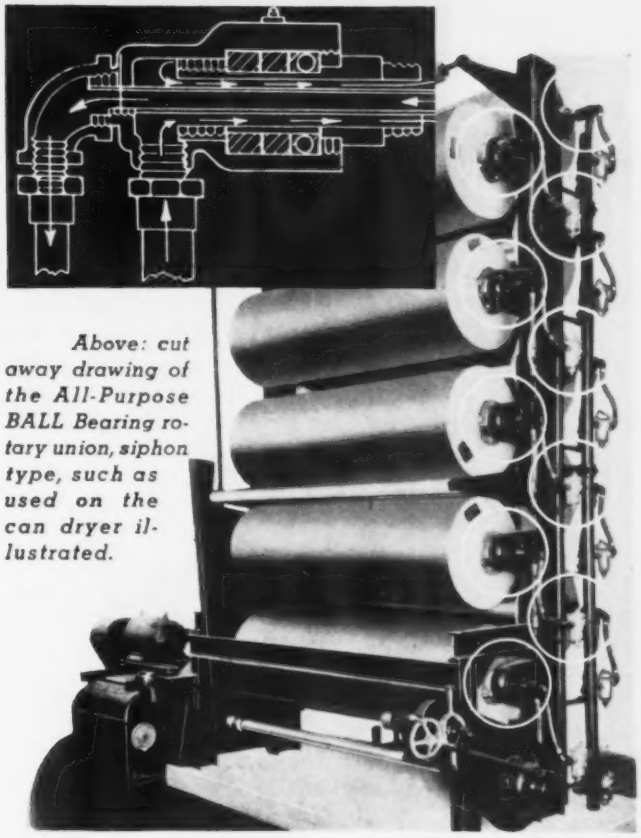
The slight extra cost of expander end seals is soon paid for by the increased life of the expander — tripled under wet conditions. If desired, stainless steel axle with bronze brackets and bronze clamps can be used to further reduce the corrosion when used for wet service.

Mount Hope Expanders are used for spreading and for eliminating wrinkles in all fabrics, from rayon marquisette to tire cord, plastic film and paper.

## MOUNT HOPE MACHINERY CO.

**42 Adams St., Taunton, Mass.**

Representatives — John H. Andresen, Inc., 138 Grand St., Paterson, N. J.; Ingalls Engineering Co., 1214 Union Trust Bldg., Providence, R. I.; Slaughter Machinery Co., Charlotte 1, N. C.; Sidney Springer, 316 East Commercial St., Los Angeles 12, Cal.; W. J. Westaway Co., Ltd., Hamilton and Montreal, Canada.



*Above: cut away drawing of the All-Purpose BALL Bearing rotary union, siphon type, such as used on the can dryer illustrated.*

# 10 "Savings Banks"

## (Ball Bearing ROTARY UNIONS)

# on this can dryer

The results secured with All-Purpose BALL-BEARING Rotary Unions on textile service are almost sensational. You SAVE installation time; you simply screw the union into the rotating member and connect the flexible hose. You SAVE machine down time. You SAVE power; friction drag is low. You SAVE space; small size, simple; no complicated piping or supports needed. You SAVE maintenance; no leakage. Available in both plain and siphon heads.

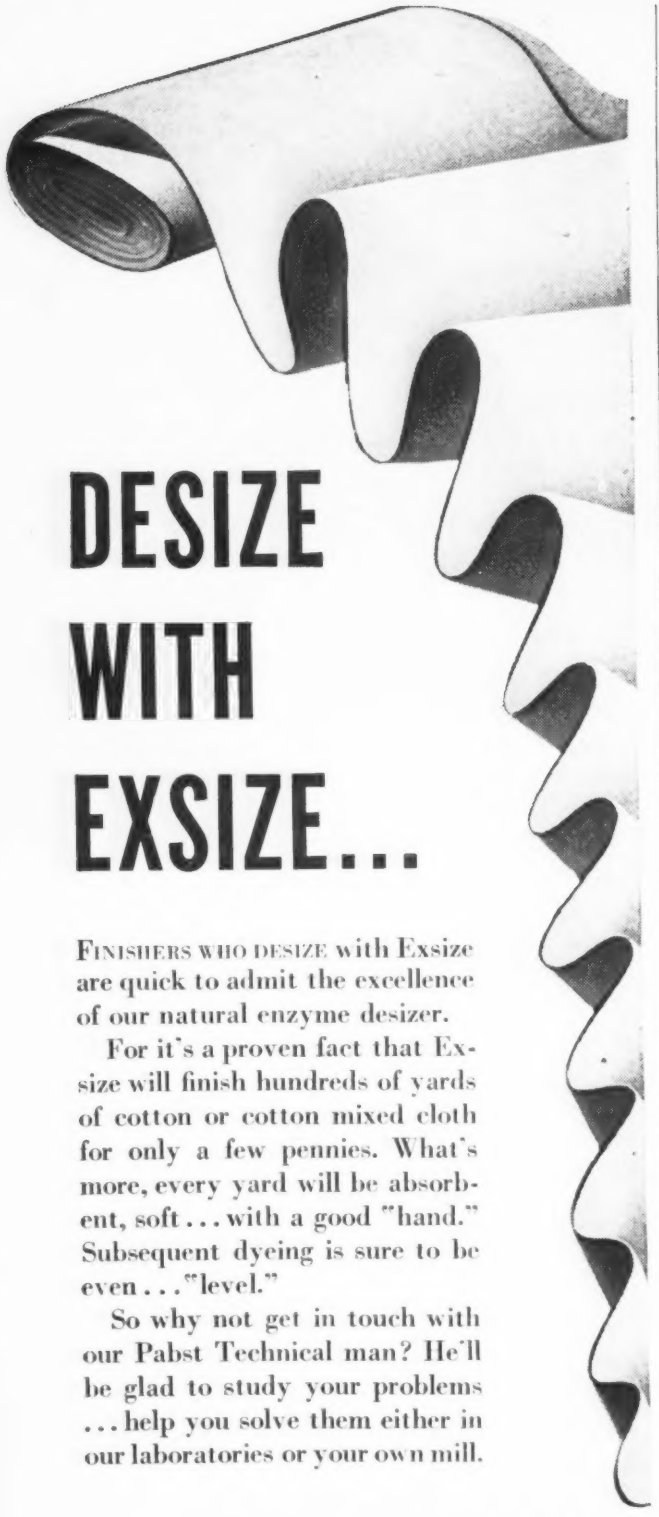
Thousands of users are already cashing in on this low-cost investment.

**Ask for Engineering Catalog No. 350, on the ALL PURPOSE Ball Bearing ROTARY UNION**

**SPEEDY DELIVERY**

**PERFECTING SERVICE COMPANY**

**6140 Cottage Grove Ave., Chicago, Ill.**



# DESIZE WITH EXSIZE...

FINISHERS WHO DESIZE with Exsize are quick to admit the excellence of our natural enzyme desizer.

For it's a proven fact that Exsize will finish hundreds of yards of cotton or cotton mixed cloth for only a few pennies. What's more, every yard will be absorbent, soft... with a good "hand." Subsequent dyeing is sure to be even..."level."

So why not get in touch with our Pabst Technical man? He'll be glad to study your problems ...help you solve them either in our laboratories or your own mill.

WRITE FOR FREE BOOKLET

PABST BREWERIES

**PABST SALES COMPANY**

CHICAGO, ILLINOIS

Warehouses at Jersey City, and Textile Warehouse Company, Greenville, S. C.

Copr. 1947, Pabst Brewing Company, Milwaukee, Wisconsin

## NEWS ABOUT SUPPLIERS

"Jack" Robertson to its sales staff to handle sales in the South of the company's line of fungicides and microbicides, with headquarters at 1229 Pasadena Ave., N. E., Atlanta, Ga. He will feature the new fungicide Nuodex 100, a mildew-proofing agent for product or process. Mr. Robertson was last connected with Aqua-Sec Corp., New York, for which he handled sales and service in the southern territory. Previously he was with Beach Soap Co., Lawrence, Mass., selling to textile mills, and was also with Du Pont company's R&H Chemical Div. He was at one time a chemist and dyer for United Elastic Corp., Littleton, Mass., and Franklin Process Co., Providence, R. I.

**Tennessee Eastman Corp.**, New York, has arranged for distribution of Eastman acetate dyestuffs in Canada to be handled exclusively by Clough Dyestuff Co., Ltd., 33 St. Mathieu St., St. Laurent, Quebec. For the last two years, Eastman dyes were sold in Canada through Canadian Kodak of Toronto. Clough Dyestuff offers laboratory service, testing, shade matching, etc., and mill demonstrations by its staff.

**J. E. Sirrine Co.**, Greenville, S. C.—Following the death of J. E. Sirrine, senior partner, as reported in our September issue, A. S. Bedell has succeeded to the chairmanship of the executive committee. The partnership operates under an executive committee elected annually. It will continue the business as in the past.

**National Starch Products, Inc.**, and its **National Adhesives Div.**, New York, N. Y., have added Morgan Potts and J. Harvey Kisling to the New York sales staff.

**Taylor Instrument Cos.**, Rochester, N. Y., has appointed William D. DeCourcy to its Pittsfield office as industrial sales representative. Harold M. Messenger will cover part of North and South Carolina out of the Atlanta office.

**Pittsburgh Plate Glass Co.**, Pittsburgh, Pa., has appointed William S. Straub as superintendent and Leonard J. Rimlinger and Ed. J. Corell as assistant superintendents at its Barberton, Ohio, plant. Mr. Straub, assistant superintendent at Barberton since 1941, succeeds R. L. Hutchison, who recently was named general superintendent for all plants operated by Columbia Chemical Div. and the Southern Alkali Corp., a Pittsburgh Plate subsidiary.

**American Viscose Corp.**, Wilmington, Del., is replacing its wooden packing cases for shipment of rayon cakes and cones with a corrugated fiberboard container which is non-returnable. The container has an inner carton for additional protection and dividers to separate the cones. It is sealed at all joints, thus keeping out dust and soot in transit. The container saves dead weight in handling and floor space. It holds 96 cones, arranged 4 wide, 4 high, and 6 deep.

**Acme Steel Co.**, Chicago, held open house at its Riverdale Plant on Sept. 30 and Oct. 1. Hot rolling, cold rolling, and finishing operations were shown. There was also an exhibit of products made by its customers from Acme strip steel.

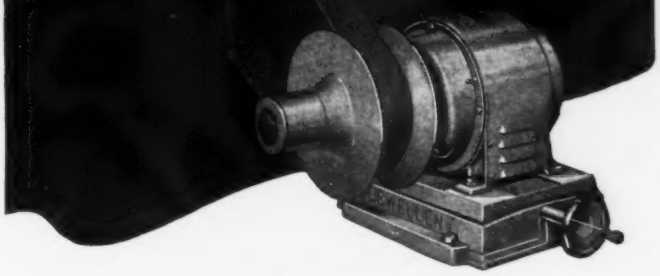
**Monsanto Chemical Co.**, St. Louis, has appointed C. L. Parish as maintenance superintendent of its Anniston, Ala., plant succeeding Herbert O. Tittel, who was appointed production superintendent of Monsanto's plant at Trenton, Mich.

**E. I. du Pont de Nemours & Co.**, Wilmington, Del.—Dr. Emmet F. Hitch, special assistant to the management of the company's Chambers Works, Deepwater Point, N. J., retired Sept. 30 after 29 yr. with the company. He is joining the faculty at Purdue University as professor in the department of chemistry.

**Pennsylvania Salt Mfg. Co.**, Philadelphia, has appointed Samuel Spring, formerly a research specialist for the Federal Government, to its research and development staff. He will have charge of the inorganic research group at Pennsalt's Whitemarsh Research Laboratories.

**United States Testing Co., Inc.**, Hoboken, N. J., has lately been given featured mention in several leading magazines. In the Sept. 6 issue of the *Saturday Evening Post* was a story by Don Wharton entitled "House of a Thousand Tortures." "Every day in Hoboken, N. J.," he

# Watch production MOUNT



## when your fixed-speed machines have

# Lewellen *Variable-Speed* Motor Pulleys

**1** **SPEED ADJUSTABILITY.** Regulate the speed of your machines by the simple turn of a Lewellen handwheel *without stopping the machine.* Have the *right speed at the right time!*

**2** **MAXIMUM MACHINE OUTPUT.** Check the rated capacities of your machines with actual production output. Often what a machine can do is simply a matter of its operation at the correct speed.

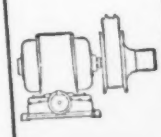
**3** **PRODUCT UNIFORMITY.** Actually the lack of uniformity in materials and varying conditions in plants demand speed adjustability of production machines for uniform, quality work.

**4** **UNINTERRUPTED SERVICE.** Avoid the waste of time to change belts and gears. Keep production flowing smoothly.

**5** **MINIMUM SPOILAGE.** Adjust machine speeds to equal the skill of operators—change in materials, and costly rejects are reduced to a minimum.

**6** **FACTORY SPACE SAVED.** Lewellen Variable Speed Motor Pulleys are compact—modern in design. Often valuable space is saved by their use.

Back of each Lewellen Variable-Speed Motor Pulley is more than 45 years experience in speed-control engineering. Lewellen Variable-Speed Transmissions, Variable-Speed Motor Pulleys and Automatic Controls are in use the country over.



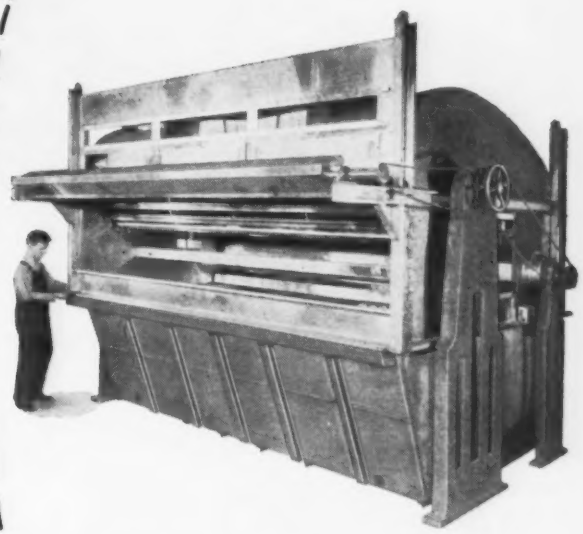
**EXPECT REMARKABLE RESULTS!** With the proper size Lewellen Pulley you can drive a machine at infinitely variable speeds; connect directly between the motor and the machine; operate the driven shaft at desired speeds. And, think what a saving it means to operate your production machines at the CORRECT SPEED! There is a Lewellen Pulley for your motor horsepower and speed, for all ratings from fractional to 7½ h.p. The speed range is 3 to 1 for all pulley sizes. (One size has a speed range of 2¾ to 1.) **Call your Lewellen representative or write today for complete information.**

**LEWELLEN MANUFACTURING CO., COLUMBUS, INDIANA**

★ Lewellen knows speed control

# Takes *less* Time

## *for Loading, Heating, Lacing, Doffing, Cleaning*



# Gives you *More* Time *for the actual dye runs which build your profit*

AND it pays its way handsomely by cutting water and steam costs lower than ever. Everything *YOU'VE* ever wanted in a dye box has been incorporated in

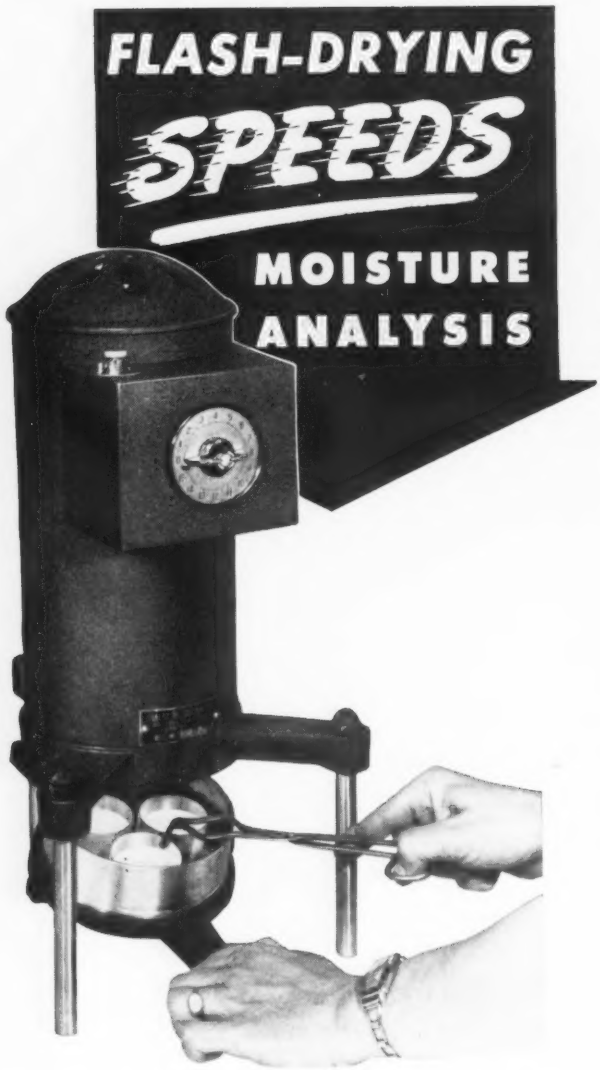
# The New BLICKMAN Fully Enclosed Stainless Steel Dye Box

Send for further information

## S. BLICKMAN, INC.

**404 GREGORY AVENUE • WEEHAWKEN, N. J.**

Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks




The Dietert Moisture Teller is an instrument of laboratory precision which is successfully operated anywhere in the plant by non-technical personnel. By this means results are determined quickly enough to provide adequate control of many processing operations.

The amount of moisture in granular, fibrous, or crystalline materials is determined accurately, safely and without resorting to charts or involved mathematical calculations. An outstanding advantage of this equipment is that it does not lose its calibration—it is always dependable.

The Moisture Teller is available in five portable models for samples from 1 to 2000 grams in weight, each compact, self-contained and sturdily constructed.

Write for descriptive folder to Dept. M

**HARRY W. DIETERT CO.**
9330 ROSELAWN AVE., DETROIT 4, MICHIGAN
SAND · MOLD · MOISTURE · SULPHUR · CARBON




said, "250 happy vandals make a living by destroying — with clubs, acids, fire, and insects —the baseballs, baby buggys, nylons, and girdles you'd like to own." Mention of the company's testing activities also appeared in the September issue of *Fortune*.

**Brown Instrument Co.**, Philadelphia, has appointed John D. Root, formerly instructor at the Brown School of Instrumentation, to be sales engineer at Philadelphia. E. Curt Richards has been transferred from the company's general sales department to the New York sales engineering staff. Thomas Pitts has been appointed industrial sales engineer at the Charlotte branch office. The company has added the following men to its branch-office field-service engineering staffs: W. E. Brittain, C. R. Haug, and E. B. Deebel, Philadelphia; E. J. Chance and W. A. Holm, New York; G. R. Dryden, Syracuse; J. W. Forbes, Albany; R. F. Ledered, Chicago; A. J. Leonaitis, Hartford, Conn.; E. H. Lochte, Houston; J. E. Luttrell, Buffalo; K. Shapleigh and F. M. West, Boston; C. K. Taylor, Indianapolis; R. H. Walker, Cleveland.

**Crescent Truck Co.**, Lebanon, Pa., has appointed George E. Miller Co., Boston, Mass., as exclusive dealer-distributor in the Boston-Providence area for the company's electric industrial trucks and tractors. Albert H. Cayne Co., New York, has been named dealer-distributor for the Metropolitan New York area. Dominion Equipment Co., Montreal, Canada, has been named exclusive dealer in provinces of Ontario and Quebec.

**Mobilift Corp.**, Portland, Ore., has opened a new office at San Francisco, Calif., with R. M. (Dick) Lewis as manager. Mr. Lewis previously sold Mobilift trucks for the Star Machinery Co., Seattle, Wash. In Mobilift's Atlanta, Ga., office, T. H. Skeel is replacing former manager E. J. Sell. The company, which was previously known as General Equipment Co., also has other branch offices in Long Island City, N. Y., and Chicago, Ill.

**Corn Products Refining Co.**, New York, reports several changes in its sales organization. W. A. Moore, formerly manager of the Grand Rapids office, has been moved to New York as manager of package sales. T. C. Clawson, with the company since 1930, becomes aide to R. R. Adam, head of the Mid-Western Div., with headquarters in Chicago. C. R. Storassli, with the Corn Products Portland and Seattle offices since 1938, becomes assistant to J. E. Walz, general manager for the entire West Coast sales operation. Frank J. Brennan, previously of the Cleveland office and more recently company representative at Cincinnati, now heads office at Indianapolis. He is succeeded at Cincinnati by J. F. Vogler, who was assistant to H. V. P. Francis, manager at Chicago. Claude V. Schock has been promoted to manager of the Arkansas-Oklahoma office, recently moved to Fort Smith from Little Rock.

***HERBERT J. NOBLE**, formerly vice president and treasurer of Taylor Instrument Cos., Rochester, N. Y., has been elected executive vice president and assistant general manager. He will retain his position as treasurer. Mr. Noble joined Taylor as an accountant. In 1934 he was elected a director; in 1938, treasurer; and in 1946, vice president.*

**Foster D. Snell, Inc.**, New York, has added Ernest R. Hanson to its staff to head research and development work in the fields of plastics and rubber. He was previously with Halowax Corp. and Bakelite Corp.

**Textile Industry Research, Inc.**, New York—Ernest L. Frankl, president of this firm is on a six-week European tour observing textile activities in England, France, Belgium, Holland, and Scandinavia. He will contact associates in Switzerland and with them consider conditions in Italy and Spain.

**Raybestos-Manhattan, Inc.**, Equipment Sales Div., Passaic,

# Whitman Yarns

**MONOMAC**
*French Spun Yarns*

**Arlington**
*Bradford Spun Yarns*

SPUN FIBERS, INC.
*Worsted Yarn on the American System*

NONQUITT
*Spun Rayon Blends Specialty Yarns*

**WILLIAM *Whitman* COMPANY, INC.**
261 Fifth Avenue, New York 16, N. Y.

BOSTON 78 Chauncy St. | PHILADELPHIA 1600 Arch St. | CHARLOTTE Commercial Bank Bldg. | CHICAGO 222 West Adams St.

**for better performance**

1 **strength** . . . made of resin bonded plywood, metal bound with a die formed steel tire, every Hubbard Loom Beam Head provides rugged non-brittle strength equalled only by the very toughest steels. Steel tire protects against chipping and burring.

2 **balance** . . . high production standards plus complete final inspection assure balance . . . and true-running heads, whatever the rotational speed.

3 **lightweight** . . . resin bonded plywood and steel tire construction results in extreme light weight. Simplifies handling and beam assembly operations.

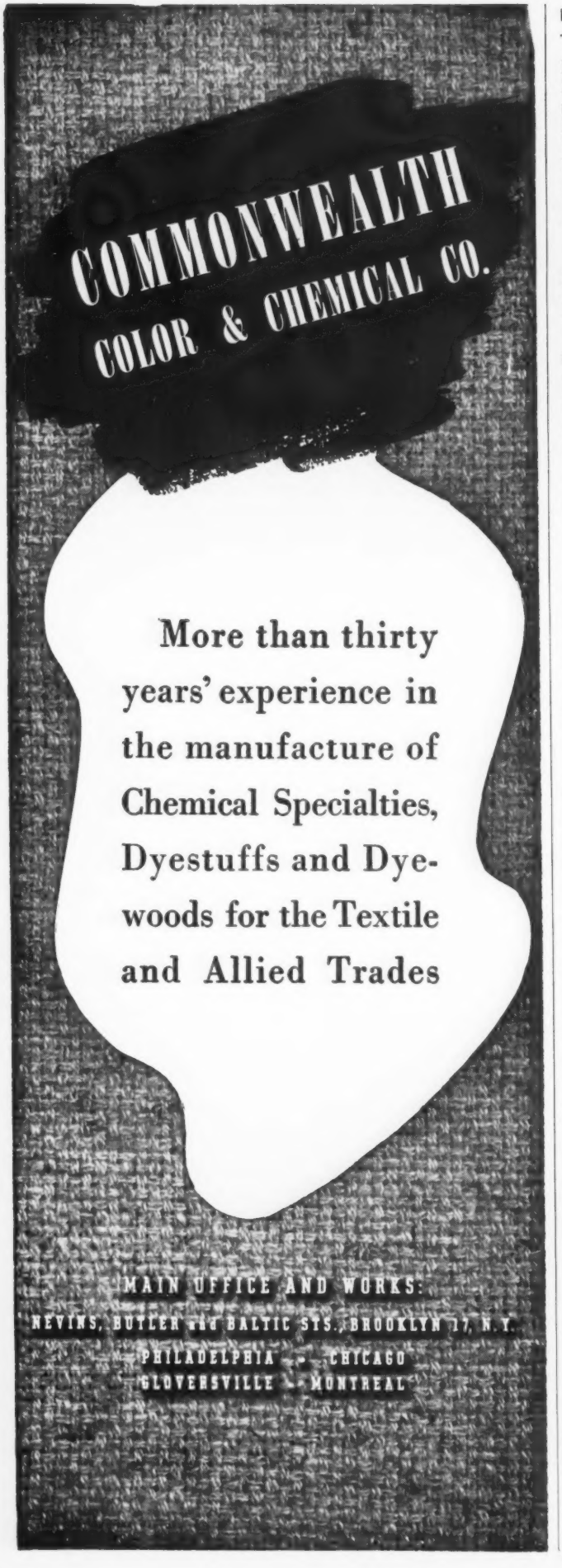
*Your inquiry for further information and quotation is invited.*

**HUBBARD SPOOL COMPANY**
1626 CARROLL AVENUE
CHICAGO 12, ILLINOIS

STAINLESS STEEL BOBBINS . . . MAGNESIUM ALLOY WARP BEAMS . . . BEAM HEADS . . .
COMBINATION WOOD AND METAL JUTE BOBBINS

# Hubbard

Since 1912 Manufacturers of Spools and Related Products


COMMONWEALTH
COLOR & CHEMICAL CO.
More than thirty years' experience in the manufacture of Chemical Specialties, Dyestuffs and Dyewoods for the Textile and Allied Trades
MAIN OFFICE AND WORKS:
NEVINS, BUTLER and BALTIC STS., BROOKLYN 17, N.Y.
PHILADELPHIA - CHICAGO
GLOVERSVILLE - MONTREAL

## NEWS ABOUT SUPPLIERS

N. J., has appointed Harry C. Dishman as equipment sales manager with headquarters in Detroit; George T. Young, as branch manager at Detroit; E. E. Juergens, as branch manager at Cleveland; and John E. Cole, as branch manager at Chicago.

**Mechanics Universal Joint Div.** of Borg-Warner Corp., Chicago, has elected C. E. Palmer, former works manager, as vice president in charge of manufacturing for the division's plants at Rockford, Ill., and Memphis, Tenn. Fred M. Potgieter was named vice president in charge of truck, agricultural implement, industrial, and aviation sales. G. C. Gridley was re-elected president and general manager.

**Air Conditioning Exposition** will be held in Grand Central Palace, New York, Feb. 2 to 6, 1948. Many devices to be shown will be entirely new, others strikingly improved. Some 460 exhibits are already reported booked. It is a trade show closed to the general public.

**Link-Belt Co.**, Chicago, has appointed James B. Elliott, heretofore divisional manager for Caldwell plant products in Chicago, to be divisional sales manager at the company's plant in Minneapolis, Minn. Erwin A. Wendell, heretofore district sales manager, Chicago branch, with headquarters at the Pershing Road plant, has been appointed divisional manager for Caldwell plant products. T. W. Matchett, heretofore district sales engineer at New York, has been appointed district sales manager, Chicago branch, with headquarters at the Pershing Road plant.

**Carborundum Co.**, Niagara Falls, N. Y., has appointed Dr. G. M. Butler, Jr., as a senior engineer of its Research Div. Dr. Butler was formerly associate director of research of the Tool & Die Steel Div. and later chief metallurgist at the Dunkirk, N. Y., plant of Allegheny-Ludlum Steel Corp.

**Quaker Oats Co.**, Chicago, Ill., has established an eastern sales office in the Whitehall Building, 17 Battery Pl., New York, for its Chemicals Dept. Miss Adelia C. Boland, formerly in the Chicago office, is the Chemical Dept. representative in New York to facilitate service for eastern users of furfural and the other furan chemicals.

**Franklin Process Co.**, Providence, R. I., has appointed Richard Pollock, Jr., to its sales staff covering Philadelphia, New York, and New Jersey out of the Philadelphia office. He is son of Richard Pollock of Reeves Bros., Inc., and has been on the sales-engineering staff of Brown Instrument Co., Philadelphia, for the last three years.

**Flintkote Co.**, New York, has had its 1946 annual report judged as the best in the building materials industry by the judges in the *Financial World* annual report survey. The bronze trophy will be formally presented to L. J. Harvey, Jr., president of the company, at the annual report awards banquet on Oct. 10.

**Welding Fittings Div.** of Tube Turns, Inc., Louisville, Ky., has appointed Lewis M. (Lou) Bound, Jr., as West Coast manager, with headquarters in San Francisco.

**Pittsburgh Steel Co.**, Pittsburgh, Pa., has acquired the Johnson Steel & Wire Co., Inc., Worcester, Mass.

**Rittelmeyer & Co.**, Atlanta, Ga., has removed its office to its own building at 150 Nassau St., N.W.

**Weston Electrical Instrument Corp.**, Newark, N. J., has named the following officers: chairman of the board, Edward F. Weston; chairman of the executive committee, Caxton Brown; president, Earl R. Mellen; vice president in charge of sales, H. Leigh Gerstenberger; vice president in charge of manufacturing, Reginald R. Lambe; vice president and chief engineer, John H. Miller.

**Alloy Steel Products Co.**, Linden, N. J., has appointed E. H. Vockrodt, of 3757 Wilshire Blvd., Los Angeles, Calif., as Pacific Coast representative.

**Industrial Instrument Service Co.**, Long Island City, N. Y., has incorporated its business under the name of Industrol Corp. and has expanded its facilities to include the engineering and fabrication of process-control systems and the assembly of completely wired and piped instrument panels.

# INCREASE

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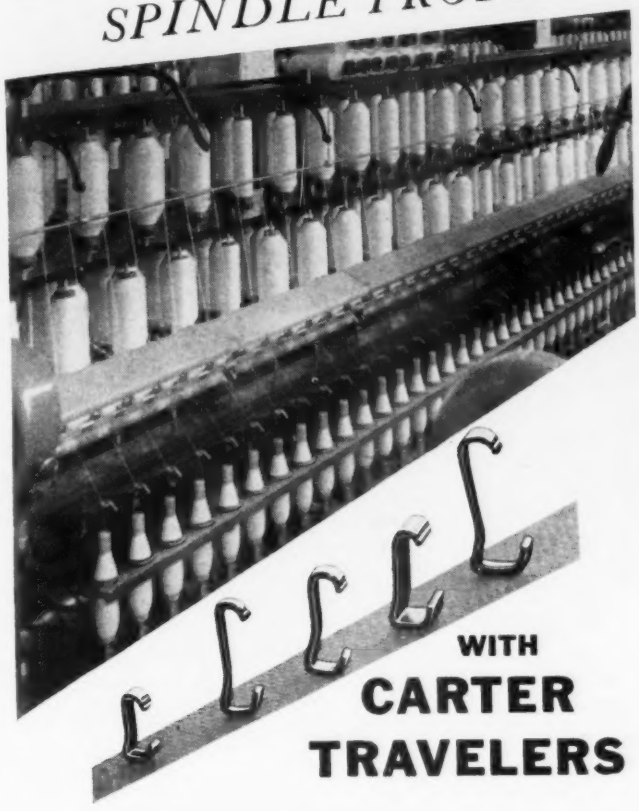

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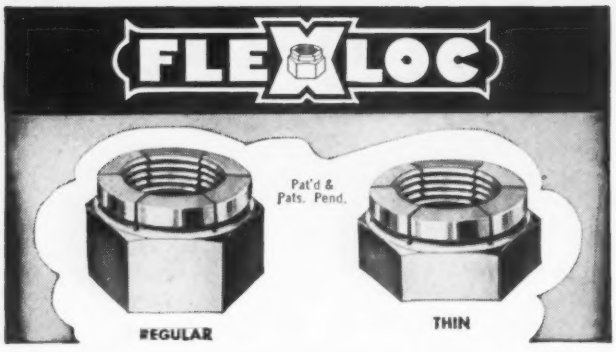


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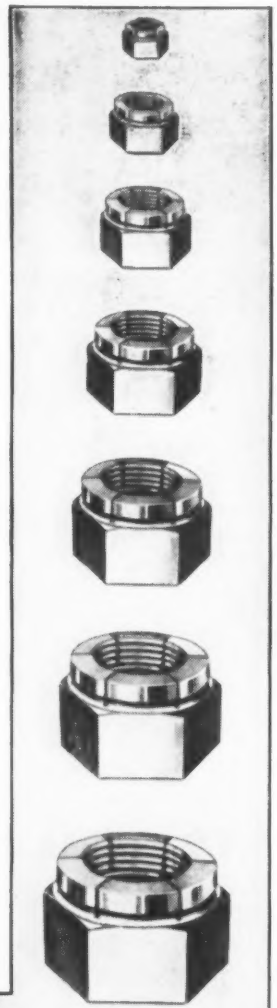

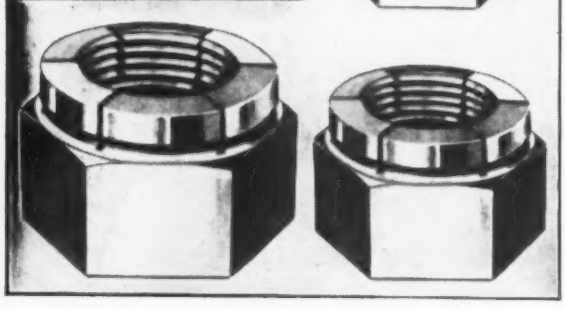

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# NEWS ABOUT Mills

## Cotton Mill News

**Anchor Duck Mills,** Rome, Ga., has begun erection of one-story addition, which, including equipment, will cost about $100,000. Company was lately acquired by Alabama Mills, Inc.

**Anniston Mfg. Co.,** Anniston, Ala., is constructing smokestack for new Babcock & Wilcox steam boiler. New building is under construction for a grease and paint shop. Two new one-story concrete, tile, and brick buildings of three apartments each are being constructed in the mill village. Mill has completed weave-room addition, and added 68 new looms and moved 266 others from the former weave room, now converted into a winder and warper room. New slasher room has been completed. Company plans installation of nine new 240-spindle roving frames.

**William Carter Co.,** Barnesville, Ga., has about completed remodeling program at cost of $250,000. Project comprises boiler house, maintenance shop, warehouse, loading platform, trucking area, two-story 40 ft. addition to knitting and finishing departments, office and new coal-storage silo with automatic unloader and handling equipment to take fuel directly in and out of silo. Improvements are also being made in dyeing building and bleach house.

**Cherokee Textile Mills,** Knoxville, Tenn., is now purchasing additional spinning equipment for a $50,000 addition to spinning department.

**Conestogo Cotton Mills,** Lancaster, Pa., will be moved to Fort Worth, Tex., by present owner, Horvath Mills, Inc., New York, N. Y. Company manufactures awnings, tickings, sheetings, heavy canvas, and (recently) rayon dress goods.

**Dwight Mfg. Co.,** Alabama City, Ala., plans installation of heating plant in mill buildings to cost about $125,000.

**Esmond Mills,** Esmond, R. I., is considering establishing branch blanket mill in San Antonio, Tex. An official of company is already on the ground making survey for this purpose.

**Esmond Mills, Ltd.,** Perth, Ont., started production recently in its $363,000 plant. Initial plans call for operation of 24 Crompton & Knowles C-4 96-in. blanket looms. Yarns are being produced on three Whitin spinning frames. Finishing equipment includes three Tomlinson nappers and eight sewing machines. Expenditures on machinery total $138,000.

**Erlanger Mills,** Lexington, N. C., where modernization and improvement program is under way, has begun the construction of addition to weave room. It is adjacent to addition built last summer, and entire weave room space will be integrated by removal of wall. New looms are on order.

**D. C. Georgopoulos,** New York, N. Y., representing owners of chain of cotton mills in Greece, has purchased 50% of voting stock in Pee Dee Mills, Inc. M. H. Clairmont remains as president and treasurer.

**Gibson Yarn & Weave Mills, Inc.,** Dallas, N. C., newly formed, has purchased plant formerly operated at Dallas, N. C., by Dalnoca Mills and plans to begin production of combed-yarn broadcloth within next two weeks. Under the new management, 14 Whitin combers, 6,080 Fales & Jenks spindles, and 100 Draper Model E looms are being installed. W. H. Gibson is president; George Mason, vice president; and Oscar F. Mason, secretary.

**Ivey Weavers, Inc.,** Hickory, N. C., has let contract to Hickory Construction Co., Hickory, for one-story addition to cost about $130,000, with equipment.

**J. & J. Spinning Co.,** Maiden, N. C., has nearly com-

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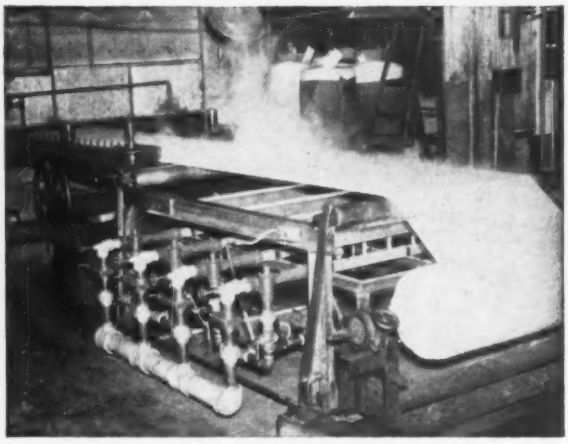

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pleted building which covers 20,000 sq. ft. of space. Machinery now on order is not expected before spring.

**Judson Mills,** Greenville, S. C., has let contract to Daniel Construction Co., Greenville, for one-story addition for general service to cost $75,000. Lockwood Greene Engineers, Inc., Spartanburg, S. C., is engineer.

**Mandeville Mills, Inc.,** Carrollton, Ga., has practically completed modernization program. Principal change has been made in spinning room, now completely long-draft. Twenty-five new Whitin spinning frames have been installed, and remaining frames have been modernized with Whitin changeovers. In carding department, four Whitin fly frames have been revamped with Interdraft changeovers, making a total of 10 long-draft fly frames in the No. 1 card room. In the process of modernizing the card room, two slubbers and three intermediates have been eliminated.

**Pacific Mills** will break ground within a few weeks for company's new plant at Brookneal, Va. C. M. Guest & Sons, Greensboro, N. C., contractor for the project, has opened an office at Brookneal to recruit workers. Mill will be known as Brookneal Mills. Pacific Mills already has an office at a Brookneal hotel but will soon put temporary office building on the mill site.

**Republic Cotton Mills,** Great Falls, S. C., division of J. P. Stevens & Co., New York, N. Y., has begun construction of first of 50 houses for operatives. English Lumber Co., Alta Vista, Va., has contract. W. A. McKoy is engineer.

**Sagamore Mfg. Co.,** Fall River, Mass., has started work on a plant addition, 65x115 ft.

**Santee Textile Mill,** Bamberg, S. C., plans to add 5,000 spindles and erect 50 new workers' homes.

**Standard - Coosa - Thatcher Co.,** No. 2 Thatcher plant, Chattanooga, Tenn., has let contract to Batson-Cook Co., West Point, Ga., for construction of addition which will contain 35,000 sq. ft. of space, as a part of $400,000 expansion program.

**Stowe Cotton Mills,** McAdenville, N. C., has recently had quality control and testing laboratory installed in mill by United States Testing Co., Inc., Hoboken, N. J.

**Upchurch Mfg. Co.,** Southport, Ala., is now operating on rug yarns, with machinery setup of 689 roving spindles.

**West Boyleston Mfg. Co.,** Montgomery, Ala., is completing conversion of mill for yarn manufacture. Plant heretofore has specialized in cotton fabrics and cords for automobile tires.

**White-Tex Mills, Inc.,** Rackford, N. C., has completed installation of new machinery that has increased spindles from 6,000 to 7,500.

## Wool Mill News

**Airedale Worsted Mills, Inc.,** Woonsocket, R. I., has increased capital stock to $1,500,000, for general expansion.

**Coosa Valley Mills, Inc.,** Talladega, Ala., is expecting shipments of machinery from Whitin Machine Works, with production scheduled for late fall. Mills will produce worsted yarns on American system.

**Dublin Woolen Mill,** Dublin, Ga., which will be operated by M. T. Stevens & Co., Inc., New York, has laid cornerstone for new building.

**Forstmann Woolen Co.,** Passaic, N. J., has awarded contract to American Bridge Co., New York, N. Y., for structural-steel framing for large addition to mill.

**C. Earl Hodgkin,** Pittsfield, Me., and **Hamilton Dunbar,** Amherst, N. H., are building small woolen mill at St. Coma, Quebec. Mr. Hodgkin operates Caribou Woolen Co. and C. E. Hodgkin & Son mill. Mr. Dunbar is a textile machinery dealer.

**Homestead Woolen Mills, Inc.,** West Swanzey, N. H., has completed installing air conditioning in card room, and has humidified room to eliminate static. Mill recently installed latest-type frame spinning and has added 24 W3 automatic looms.

**Ilona Worsted Mills Inc.,** Woonsocket, R. I., has been chartered with incorporators consisting of Sidney Silver-

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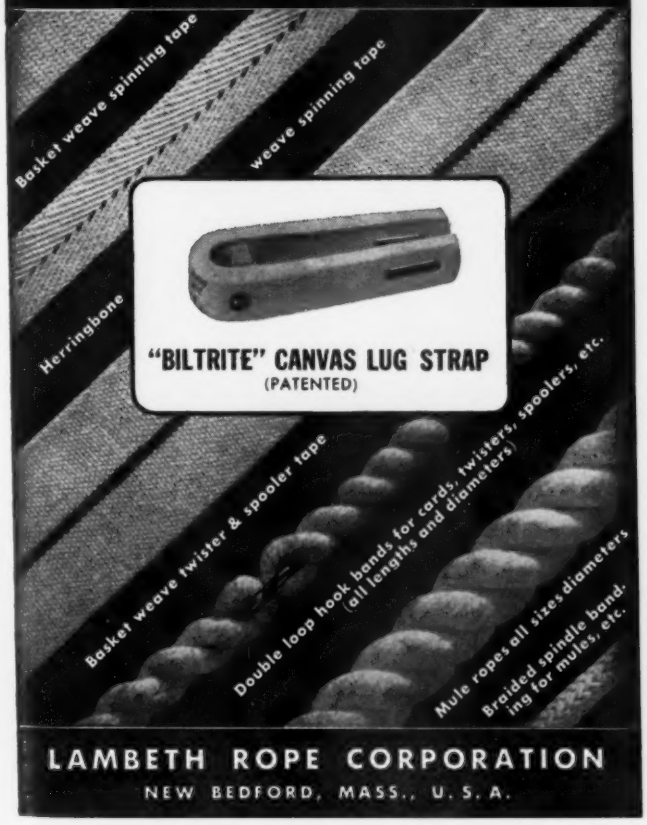
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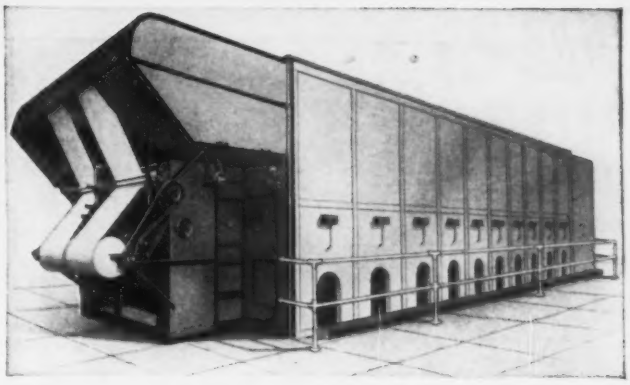

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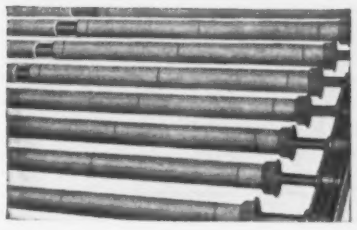

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**Johnson Weaving Mill,** Union S. C., **Excelsior Mills,** Union, S. C., and **McCormick Spinning Mills,** McCormick, S. C., three new mills of Deering, Milliken & Co., Inc., New York, N. Y., are all in full production. McCormick mill has cost more than $11,000,000, and contains 20,000 spindles. Johnson mill has 114 broad worsted looms and 300 operatives.

**Lippitt Worsted Mills, Inc.,** Woonsocket, R. I., has increased capital stock to $600,000, for general expansion.

**Johnathan Ring & Co., Inc.,** Philadelphia, Pa., an established firm, has been granted charter of incorporation to manufacture, process, and deal in fine wool-spun yarns and angora-rabbit wool yarns. Authorized capital is $120,000. Arthur B. Otto, Jr., Arthur B. Otto, and Marguerite D. Otto are incorporators.

**Sabattus Woolen Mills, Inc.,** Lewiston, Me., has purchased Royal Woolen Mills, Sabattus, Me.

**Souther Processing Co., Inc.,** Stoughton, Mass., has been chartered to operate local mill for cotton and wool specialties. C. W. Souther, Jr., is treasurer.

## Rayon & Silk Mill News

**Aragon Mill,** Rock Hill, S. C., has begun repair program on mill village. In the mill itself, modernization project includes installation of central-station humidifying system, installation of fluorescent lighting, and painting interior. Construction of lighted softball field has been added to mill's plans.

**Asheboro Weaving Mill,** Asheboro, N. C., now under construction, is progressing rapidly. Mill will manufacture rayon cloth and is to be subsidiary of William Klopman & Sons, Inc., New York, N. Y. Initial plans call for 200 looms, with installation of 1,000 more by time plant is completed. The first 200-loom unit is expected to be completed Jan. 1. Cost of initial construction is estimated at $150,000, exclusive of land and fixtures. It will be completely air-conditioned.

**Bur-Green Fabrics, Inc.,** Greensboro, N. C. expects to begin operations soon. Incorporators are Edmund W. Koury, E. C. Wright, Jamie C. Ley, and Joseph S. Koury. Firm has authorized capital stock of $100,000.

**Burlington Mills Corp.,** plans construction of addition to Mooresville, N. C., plant which will cost $22,000. Addition will have new machinery.

**Cheraw Weaving Mills, Inc.** Cheraw, S. C., is newly established plant for manufacture of rayon print cloth. Company has purchased building which was started last year to house Aldon Rug Co.

**Collins & Aikman Corp.,** Philadelphia, Pa., plans extensions and improvements in mill reported to cost $70,000, with equipment.

**Fine Arts Fabrics, Inc.,** Hickory, N. C., has organized to manufacture women's dress goods under a capital stock of of $200,000. New plant will be housed in property formerly occupied by Better Built Bedding Co., which the new concern acquired from previous owners. Officers of the corporation are C. E. Clark, president; E. J. Wentz, vice-president and manager; and Mayor R. H. McComb, secretary-treasurer and business manager.

**Holyoke Fabrics, Inc.,** Holyoke, Mass., will launch $100,000 expansion program, which will include purchase of 24 broad looms capable of production 20,000 yd. of interlining weekly, as compared with present 12,000 yd.

**Kenmar Textile, Ltd.,** Granby, Que., has awarded contract for erection of mill building, 170x63 ft., in St. Angele, Que. Cost is estimated at $50,000.

**William Klopman & Sons, Inc.,** New York, N. Y., has acquired Duchess Throwing Co., Statesville, N. Y., for $150,000; and Covington Weaving Co., Covington, Va., for $200,000 from Burlington Mills Corp., Greensboro, N. C.

**New River Ordnance Plant,** Dublin, Va., has been sold to Burlington Mills Corp., Greensboro, N. C., by War Assets Administration for $615,000. Purchaser will use new plant to dye natural and

NYLON MILL FOR DUPLAN CORPORATION

AT WINSTON SALEM, N. C.

(Illustrated on Front Cover of November 1946 Issue of Textile World)

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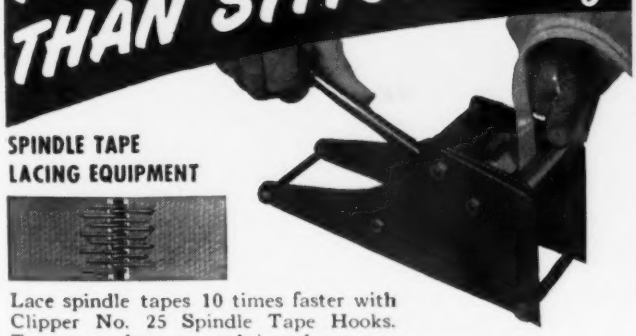


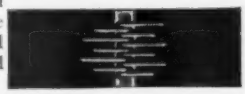
**SPINDLE TAPE LACING EQUIPMENT**



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

**CONDENSER TAPE LACING EQUIPMENT**

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



**CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN**

**Clipper** BELT LACING EQUIPMENT

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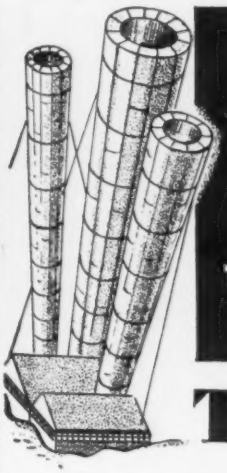

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● Building and Machinery Appraisals and Surveys (Reorganizations and new Developments) ● Mechanical and Operating Surveys—New Methods. (Reorganizations and New Developments) ● Order Scheduling and Planning ● Work Load Studies, Job Analysis and Job Evaluation, with Incentive Plans ● Standard Cost Installations ● Cost Control Methods

Labormeter—Burden-meter—Waste-meter

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The following is a typical letter written by a client, indicating the range and quality of service rendered by the Barnes engineers:

"We have employed Barnes Textile Associates, Inc. regularly since 1928. During this period we have consulted them on an infinite variety of problems having to do with the efficient operation of a textile plant.

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"We consider them the outstanding textile engineers in the country today, both with regard to ability and integrity, and, during our nineteen years of close contact with this firm, their services have been invaluable."

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FOR EVERY TEXTILE APPLICATION

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*Factoring*

*founded on service*

**Meinhard, Greeff & Co.**

INC.

*51 Madison Avenue, New York City*




synthetic fibers, and will employ 1,000 people when in full operation. Due to a misunderstanding, it was first reported that the ordnance plant had been purchased by Mohawk Carpet Mills, Amsterdam, N. Y.

**Plastewebe, Inc.,** Greenville, S. C., recently organized with capital stock of $10,000, with W. O. Cathcart as president and general manager, has begun operations in manufacture of plastic cloth. Company expects to have ultimate output of 5,600 yd. per week.

**Tennessee Eastman Corp.,** Kingsport, Tenn., has renewed city building permit for erection of five-story plant building at cost of $337,000.

**Textile Mills Co.,** Chicago, Ill. manufacturer of burn-proof ironing-board covers, is constructing $1,000,000 plant in Chicago.

**Visking Corp.,** North Little Rock, Ark., has started preliminary production of Viskon, a bonded-web material that is neither cloth nor paper but has many qualities of each.

**Fred Weir,** Newberry, S. C., is building new cloth-weaving plant on his property. Two buildings are already on the site and a third is now under construction. Fifty looms will be installed, with plans to add an additional 50 at an early date.

**Whittier Mills Co.,** Chattahoochee, Ga., has revived and amended charter, which expired last year, to erect and operate mill for manufacture of yarns, cord, cloths, braids, and fabrics made from cotton, wool, rayon, and synthetic fibers. Firm was incorporated in 1908.

## Knitting Mill News

**American Mills,** Griffin, Ga., has recently been formed to manufacture children's underwear.

**Beaunit Mills, Inc.,** Lowell, N. C., has let contract to R. H. Pinnix, Gastonia, N. C., for one-story addition, including alterations and improvements in present building. Cost about $100,000, with equipment.

**Belvedere Hosiery Co.,** Charlotte, N. C., newly established, has begun production of nylon full-fashioned hosiery on a limited scale. J. M. Hatch is president and manager of plant. It is operating three Karl Lieberknecht machines, producing 51-gage hosiery in a variety of shades.

**J. P. Burton & Son,** Griffin, Ga., has started to manufacture women's and infants' cotton anklets of 2x2 rib construction. Mill has 41 knitting machines, 15 looping machines, and employs 23 people. J. P. Burton is president and general manager.

**Compton Mills Corp.,** Los Angeles, Cal., a warp-knitting plant manufacturing tricot fabrics, opened recently. Four Aveco high-speed machines are in use.

**Davis Hosiery Mills, Inc.,** Newport, Tenn., has sold all of its equipment to May Hosiery Mills, Nashville, Tenn.

**Gossett Knitting Mill,** Griffin, Ga., has started to manufacture men's socks and women's anklets. Mill has 22 160-needle Banner knitting machines. Homer H. Gossett is president.

**Hampton-Krenn, Inc.,** Martinsville, Va., will manufacture cloth for a variety of garments, and processes will include knitting, dyeing, cutting, sewing and finishing of materials; 50 people are now employed.

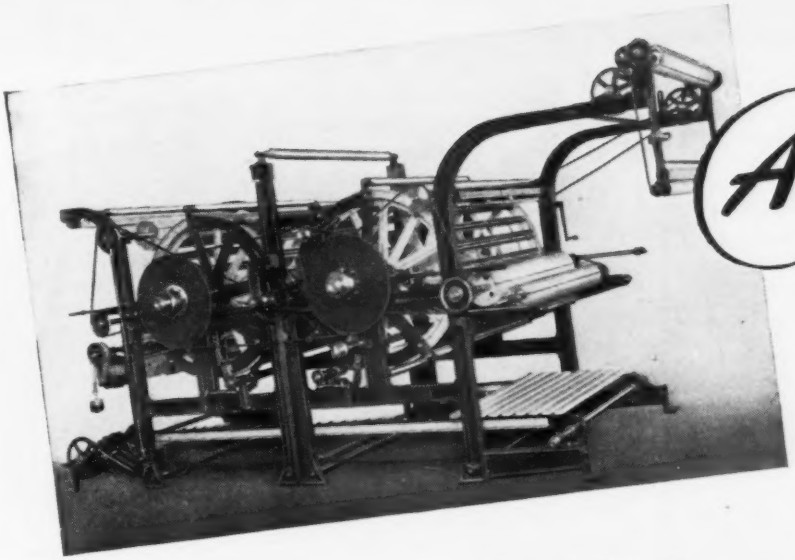
**Laurentian Silk Mills, Ltd.,** Cap de la Madeleine, Que., recently purchased four warp-knitting machines from Whitin Machine Works. To provide room for the machines, company has erected an addition to plant, 75x40 ft.

**Lykens Hosiery Mills, Inc.,** Lykens, Pa., has recently opened its own dyeing plant.

**May Hosiery Mill,** Nashville, Tenn., has been granted permit to construct $150,000 addition. Excavation starts at once and construction is scheduled for next spring.

**C. D. Newton,** of Hickory, N. C., has received building permit for construction of hosiery mill building at an estimated cost of $200,000. The building, one-story in height, will house about 41 machines for the manufacture of men's half hose.

**Ridge Textile Co.,** Athens, Tenn., is scheduled to get into operation in near future. Concern will manufacture seam-



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Large 42" diameter cylinders on Gessner's Double Cylinder Slat Gig give four contacts to the cloth, the most efficient size to keep the teasles properly moist for ideal finishing. In many installations, from three to eight gigs are run in tandem to save gigging time and cloth handling. Among many other improvements, Gessner has greatly simplified changing of slats. We would like to tell you more.

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2. Holding wings held positively in position by skeleton washer—no sliding around.

We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters and winders.

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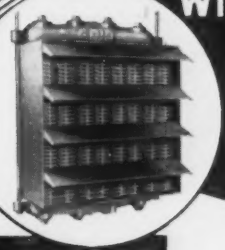

GRID High Test Cast Iron Unit Heaters are engineered especially to overcome atmospheric conditions such as illustrated here; conditions ever present in textile mills. Many GRID units have been in continuous operation for over 17 years in textile mills all over the country without maintenance expense. Capacity tables and complete details upon request.

★ One piece construction heating sections (Patented) of high test cast iron that will withstand steam pressures up to 250 lbs.

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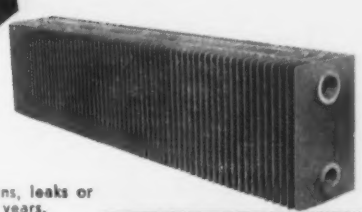
★ No electrolysis to cause corrosion, with resultant breakdowns, leaks or heating failures now, or in future years.



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less cotton anklets. J. D. Moore is president.

**Shannon Hosiery Mills,** Columbus, Ga., plans construction of new addition to mill, 91x47 ft., for preboarding room. J. P. Bradfield is contractor.

**Standard Knitting Mills,** Knoxville, Tenn., has received city building permit for $105,000, two-story, reinforced concrete addition.

**Superior Co., Inc.,** Piqua, O., will complete $400,000 modernization program by end of year. Two one-story buildings have been added to original five-story plant; bleach house, sewing, and cutting departments have been renovated and modernized; and with the delivery of the 14-cut Scott & Williams circular machines now on order, all old equipment will have been replaced with new machinery. Company expects to boost production by 60%. Sol Kittay is president.

**Taylor Hosiery Mill,** Columbus, Ga., has been formed to manufacture men's hosiery. Plans call for production of 300 doz. pr. per day. Harvey Taylor is president.

**Warlong Glove Mill** and **Conover Knitting Co.,** Conover, N. C., will have quarters ready for occupancy early next year. Work continues to go forward on construction of large brick building which will house these two industries which are owned by Adrian Shuford, Sr., and Adrian Shuford, Jr.

**Wisteria Hosiery Mills,** Gastonia, N. C., recently purchased by Glenn Mills, Inc., Lincolnton, N. C., plans to add 54-gage machines to supplement the 45- and 51-gage now used in Wisteria plant. The 400-needle seamless machines may be moved to another of the hosiery mills owned by the Glenn interests.

## Dyeing & Finishing Plant News

**Carolina Process Co.,** formerly located at Mount Holly, N. C., has moved into new quarters in Charlotte, N. C. Concern is housed in modern, two-story building with spinning machinery on first floor and company offices on second. R. C. Anderson is president and treasurer, and Grace Anderson, secretary.

**Dundee Mills, Griffin, Ga.,** will transfer dye plant from present location to new $175,000 addition which company is building at Lowell Bleachery, Experiment, Ga. New plant is expected to be in operation by April, 1948. Lowell Bleachery is to be improved with new machinery, at a cost of $300,000. New machinery will include continuous, open-width, hydrogen-peroxide bleaching range, new towel dryer, and new tenter frames.

**Gerald Jacobs & Son,** Utica, N. Y., will set up a textile print works in Utica.

**Mount Hope Finishing Co.,** North Dighton, Mass., has let contract to Gibane Building Co., Providence, R. I., for addition to boiler house, including improvements in existing plant. Cost is close to $95,000.

**North Georgia Processing Co.,** Toccoa, Ga., is now occupying its new two-story plant. The firm, employing about 1,200 operatives, may add 300 more when in full production.

**Putnam Textile Printers,** Cold Springs, N. Y., has been formed to print textiles. Nicholas De Luccia, head of Cold Spring Dyeing & Finishing Co., Cold Spring, N. Y., is head.

**Spindale Finishing Co., Whitney Plant,** Spartanburg, S. C., unit of Spindale Finishing Co., is planning to move to Camp Croft, S. C., to $10,000 location acquired from WAA by Spartanburg County Foundation. Frank Rigers is resident manager of plant.

**Startex Mills,** Tucapau, S. C., where new type of bleaching equipment is being installed, is expected to have bleachery in operation within the next few weeks. Of stainless steel construction, the new equipment is designed for continuous bleaching process.

**J. F. Wolfenden & Son,** Attleboro, Mass., has work started on a two-story, 60 x 60 ft. storage unit, cost $95,000. Rowley Construction Co., Pawtucket, R. I., has general contract.

**Verney Corp.,** East Greenwich, R. I., has completed plans for 50 x 120-ft., one-story, concrete-and-cinder-block dye-house addition. Central Engineering & Construction Co., Pawtucket, R. I., has general contract.

*Seriously — which would you buy?*

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Reg. U.S.A. and Canada
TEXTILE FINISHES

Naturally, the one on the right, because of its spot repellency, greater resistance to runs and snags, smoky-dull, sheer appearance, and *lasting beauty*. The sensible, appearance-conscious woman of today knows intuitively what she wants — and *DuraBeau* finished hosiery is *IT!*

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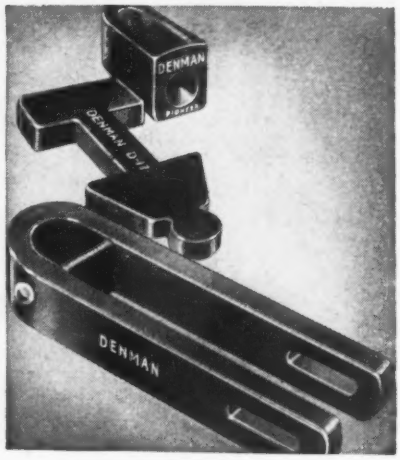


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*Lowest Cost Per Loom Per Year*

*The* Terrell Co., *Inc.*

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E. W. S. Jasper, Inc., Elizabeth, N. J., Penn., N. Y. and N. J.
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**Make yourself more valuable...turn out more work with less time and effort: Have a factory-trained D.-B. packing and marking man analyze your shipping room procedure. Profit by his suggestions. Others have. No obligation. See your phone book under "Stencil Cutting Machines." Or write Diagraph-Bradley Dept. S. 3745 Forest Park Blvd., St. Louis 8, Mo.**

# NEWS ABOUT *Men*

**Richard N. Tendler** is new president of LaFrance Industries, LaFrance, S. C., succeeding Paolino Gerli, resigned.

**Werner B. Hug,** formerly secretary of Brookside Mills, Inc., New York, N. Y., and Knoxville, Tenn., has been named president of Hornell Industries, Inc., Hornell, N. Y. He succeeds **Adrian Tabin** of Chicago.

**Grant A. McClathie** has been reelected president of U. S. Finishing Co., Norwich, Conn.

**David G. Hartman** has been elected vice president in charge of technical developments at Providence Dyeing, Bleaching & Calendering Co., Providence, R. I. He succeeds **A. C. Holdworth,** who has joined Lawrence Print Works. **E. H. Emmott,** superintendent, has been elected a director.

**Luther H. Hodges,** vice president of Marshall Field & Co., and general manager of Fieldcrest Mills will transfer his headquarters to mills at Spray, N. C. **H. W. Witcomb,** divisional vice president and assistant general manager of Fieldcrest Mills, will continue in direct charge of the mills in North Carolina and Virginia; and **E. W. Medbery** of the mills in Zion, Ill.

**Roy Bartels,** owner and manager of the New York sales agency which handles the mill's products, has become vice president and general manager of Kenosha Full Fashioned Mills, Inc., Kenosha, Wis.

**James A. Roberts** has been appointed vice president and director of Mercury Mills, Ltd., Hamilton, Ont.

**William F. Goedecke** has been elected vice president of Stark Bros. Ribbon Corp., narrow fabrics division of Burlington Mills Corp., Greensboro, N. C.

**C. E. Gregg,** assistant vice president of Burlington Mills Corp., Greensboro, N. C., has resigned to become associated with William Klopman & Sons Greensboro office, where he will be engaged in production division.

**James P. Smith** has joined Burlington Mills Corp. of New York as general assistant to **Kenneth Collins,** vice president in charge of advertising and public relations. He succeeds **Nathaniel C. Thayer, Jr.,** who has been transferred to the company's finished goods division.

**Walter B. Parker** has joined Fieldcrest Mills, of Marshall Field & Co., as superintendent of the woolen mill, Spray, N. C. Mr. Parker has been associated with Faulkner & Colony Mfg. Co., Keene, N. H., since his graduation from Amherst College in 1928.

**Arthur Erlandson,** credit manager for the Nashua Mfg. Co. for the last 12 years, has been appointed as credit manager of the parent company, Textron, Inc.

**Herbert Miller,** supervisor of mill operations, is treasurer of Sabattus Woolen Mills, Inc., Sabattus, Me. **Joseph Loper, Jr.,** is president.

**Manuel Roderiguez, Jr.,** who recently resigned as superintendent of Amoskeag-Lawrence Cotton Div., has arrived in Brazil to take over as technical superintendent of new Fiacao e Tecelagem Campo Belo, weaving and spinning plant at Campo Belo in Sao Paulo. The mill, now being erected, will have 15,000 spindles.

**W. W. Anderson,** formerly of Greenville, S. C., will be associated with Dublin Woolen Mills, Dublin, Ga., which the Stevens interests are erecting at cost of $6,000,000.

**Joseph H. Axelrod** has been elected member of board of directors of Wamsutta Mills, New Bedford, Mass., to succeed **Patrick Sweeney,** who has retired.

**Robert Amory, John Geil, W. J. Hunter,** and **R. A. Stephenson** have been elected vice presidents of Springs Mills, Inc., New York, N. Y. **C. N. Rice** was elected treasurer; and

*Selling the finest quality Spun Rayon and Spun Acetate Yarns and Blends.*

Sole distributors of "Magic Spun" Yarn.

**UNITED YARN PRODUCTS COMPANY**

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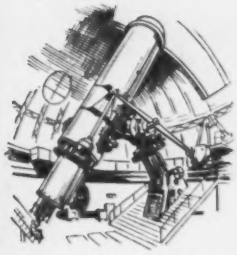

# LONG LOOK

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Cotton yarns, single and ply
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New Chemical Treatment
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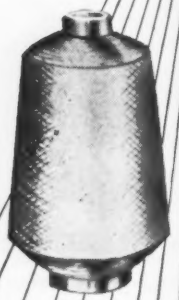

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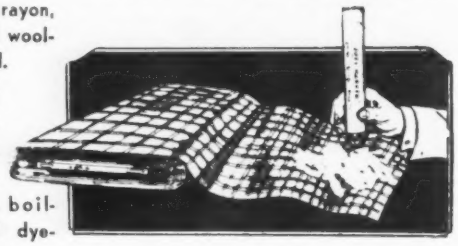

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## NEWS ABOUT MEN

**Norman C. Wynroth,** assistant secretary. **Elliott Springs** is president.

**J. R. McInvaill** has resigned as secretary-treasurer of Wisteria Hosiery Mills, Inc., Gastonia, N. C., and as vice president of Wisteria Hosiery Sales Corp., New York. Mr. McInvaill will enter business for himself as mill agent representing several southern hosiery producers. Wisteria Hosiery Mills, Inc., was recently sold to Glenn Mills, Inc., Lincolnton, N. C.

**Dr. Ralph T. K. Cornwell,** director of research, Sylvania Division, American Viscose Corp., has moved from Fredericksburg, Va., to Marcus Hook, Pa., where research department of Sylvania Div. will be established.

**Dr. Monroe Couper** has joined division of organic chemistry of Institute of Textile Technology. For the last six years he has been dye research chemist for E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

**John Dowling** has been appointed head of Sanforized division of Cluett, Peabody & Co., Inc., to succeed **John Turrell,** who resigned.

**A. C. Holdsworth** has been named general manager of Lawrence Print Works, Inc., Lawrence, Mass., a division of Aspinook Corp. He was formerly vice president of Providence Dyeing, Bleaching & Calendering Co., Providence, R. I. Before that he was plant manager of Bradford Dyeing Association (U.S.A.), Bradford. **Raymond E. Caffray,** former vice president and general manager of Lawrence plant, now on an extended vacation because of poor health, will return to the company as sales executive in New York office at 271 Church St.

**Donald Carroll** has been appointed manager of U. S. Rubber Co. tire-cord plant at Scottsville, Va., and company's Seaboard-Stevens plants, Burlington, N. C.

**W. H. Corry,** formerly associated with G. D. Taylor & Sons, cotton merchants at Gastonia, N. C., has been elected general manager and assistant treasurer of Carolina Mills, Inc., Dillon, S. C., to succeed **E. H. Brown,** who recently resigned.

**Joseph Leake** has been appointed general superintendent of Howard-Arthur Mills, Fall River, Mass., to succeed the late Herbert H. Read, Jr. Mr. Leake has been associated with the plant for 10 years.

**Olin C. Shedd,** group manager of four Burlington Mills plants in Fayetteville, N. C., area, has taken over additional responsibilities of management of Oxford Mills, Oxford, N. C., which was purchased by Burlington Mills in October, 1946. **D. F. Lanier** is local superintendent of Oxford plant.

**Tycho Nissen,** formerly plant engineer for Stonecutter Mills, Spindale, N. C., will become associated with new bleachery and finishing plant of Springs Cotton Mills, near Chester, S. C., which is now nearing completion.

**Earl Clifford,** formerly manager of Uncas Finishing Corp., Mechanicsville, Conn., has become general manager of Sumter Textile Mills, Inc., Sumter, S. C.

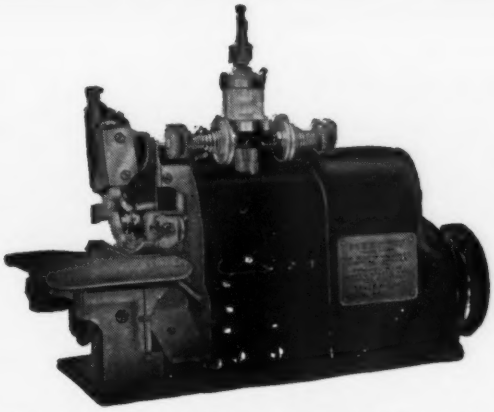
**P. J. Fluge** has been appointed manager of yarns division at Owens-Corning Fiberglas Corp., Toledo, Ohio. Prior to his new assignment, Mr. Fluge served as administrative assistant to vice president in charge of sales.

**L. H. Priday,** formerly plant manager at Parlin, N. J., has been transferred to the Wilmington, Del., office of E. I. du Pont de Nemours & Co., Inc., as assistant director of production. He succeeds **M. A. Dibble,** who has become assistand and manager of finishes division. **H. L. Priddy,** now assistant plant manager of Parlin, will become plant manager there.

**D. C. Turretine, Jr.,** former superintendent of Greer, S. C., plant of Victor-Monaghan Co., has been made assistant general manager, succeeding **B. S. Rose,** resigned.

**Henry W. Pittman,** agent of Porterdale Div. of Bibb Mfg. Co., Macon, Ga., will retire from active service Oct. 1, after having been connected with the organization for approximately 20 years. He will be succeeded as agent of division by **B. B. Snow,** now general superintendent of division.

**Robert A. Hicks,** formerly with Winnsboro Mills, unit of



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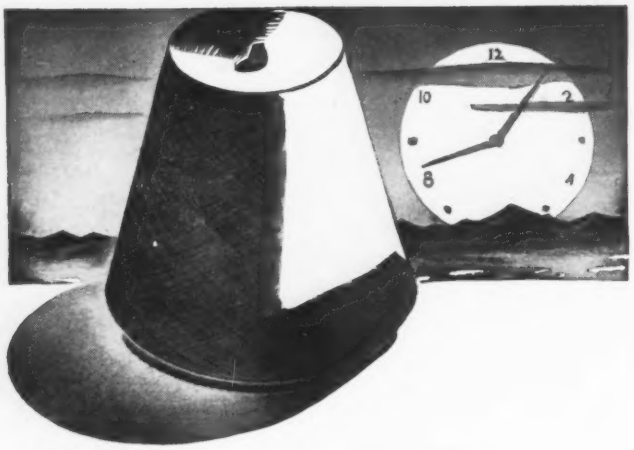

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NOVELTY YARNS



U. S. Rubber Co., Winnsboro, S. C., has joined W. L. Balthis & Co., Gastonia, N. C., as manager of cotton department.

**Harold J. Michel** is now manager for American Viscose Corp., Lewiston, Pa., succeeding **P. G. Woodward.**

**L. G. Trimmier** is now manager of new rayon goods finishing mill at Clarksville, Va., a unit of Colonial Mills, Inc., New York, N. Y.

**Earl R. Wolcott,** formerly assistant chief engineer of American Enka Corp., Enka, N. C., has become associated with P. H. Hanes Knitting Co., Winston-Salem, N. C., as chief engineer.

**Halsey B. Leavitt, Jr.,** has resigned as superintendent of the woolen mill of Fieldcrest Mills, Leaksville, N. C., to become superintendent of Atlanta Woolen Mill, Atlanta, Ga. **Walter B. Parker,** superintendent of Faulkner & Colony Mfg. Co., Keene, N. H., has been named to succeed him.

**Sidney R. Loeser** has been appointed assistant to contract carpet manager, **John Gallaher** at James Lees & Sons Co., Glasgow, Va.

**Frederick C. Wedler,** formerly of the textile research department of American Viscose Corp., has resigned to join Burlington Mills, Inc., Greensboro, N. C.

**John F. Yare** is new assistant superintendent and designer for Hichon Bros., Norwich, Conn.

**Reuben J. Jennings,** assistant superintendent of Lanett unit of West Point Mfg. Co., Lanett, Ala., has become superintendent of Equinox Mill, Anderson, S. C.

**C. W. Cashion** has resigned as superintendent of Flint Mfg. Co., Gastonia, N. C., and has accepted similar position with A. M. Smyre Mfg. Co., Gastonia.

**Bob McKinstry,** superintendent at Oakes Mills, Bloomfield, N. J., is no longer associated with company, which was closed recently and offered for sale.

**William J. Morrisey** of Providence, R. I., has been appointed superintendent of Griswold Mills, Inc., New York, N. Y. and Voluntown, Conn. Mr. Morrissey was associated with Wanskuck Co. for 15 years as assistant chemist. For the last six years he has been in charge of dyeing at Lincoln Mills, Pascoag, R. I.

**Peter A. Green,** assistant superintendent of New Bedford Rayon Co., New Bedford, Mass., has been promoted to superintendent to succeed **Albert Ruth,** who is now general manager. **Harry G. Rounswell** is treasurer and office manager.

**W. E. Wimot** has accepted a position with Putnam Finishing Co., Mechanicsville, Conn., in charge of acetate division.

**Stanley Laughlin,** assistant superintendent of worsted yarn department, Ames Worsted Co., Southbridge, Mass., has been promoted to superintendent. He succeeds **P. Whiteoak,** who is now worsted yarn superintendent for Montrose Worsted Mills, Granby, Quebec.

**Lewis A. Crawford** has become associated with Joanna Textile Mills Co., Goldville, S. C., as assistant superintendent in charge of third-shift operations.

**P. L. Mathewson** has become associated with Victor-Monaghan Co., Greenville, S. C., a subsidiary of J. P. Stevens & Co., Inc., New York, N. Y.

**W. T. Riddle,** formerly superintendent of Tuxet Woolen Mills, West Warwick, R. I., is now with Lebanon Woolen Mills Corp., Lebanon, N. H.

**Robert W. Buxton,** formerly with Parks & Barstow Co., Dexter, Me., is now superintendent of Dumbarton Woolen Mills, Sangerville, Me.

**M. L. Landon** will become superintendent of Altamont Knitting Mill, Wilkes-Barre, Pa.

**Winfield Hamlin,** of Claremont, N. H., is now chief engineer for Baltic Mill of American Woolen Co., Enfield, N. H.

**L. C. Finey,** formerly with Mooresville Mills, Mooresville, N. C., has been named superintendent of Safie Mfg. Co., Rockingham, N. C. **Lester Adock** will be assistant.

**Albert George Keen,** of Savannah, Ga., has become office manager of Gaffney Mfg.

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## NEWS ABOUT MEN

Co., Gaffney, S. C. He was formerly chief accountant and treasurer of Savannah Machine & Foundry Co.

**R. M. Ross,** formerly overseer of carding and spinning at Norris Cotton Mills Co., Cateechee, S. C., has become overseer of carding at Appleton Co., Anderson, S. C.

**E. V. Roy** is now overseer of finishing at Ace Woolen Co., Buckland, Conn. **A. Fontaine,** overseer of spinning, has resigned his position.

**W. J. Scanlon** is now overseer of dyeing at Lincoln Mills, Pascoag, R. I.

**L. A. Shorette** is now assistant superintendent at Guild-Pinecrest Mills, Linwood, Mass.

**Owen R. Stinett** is now overseer of weaving for Valley Woolen Mills, Homer, N. Y.

**James Thompson,** overseer of carding, has resigned his position at Franklin Yarn Co., Franklin, Mass.

**A. D. Truman** is now dyer on second shift at Triangle Finishing Corp., Johnstown, N. Y.

**A. Fontaine** is new overseer of spinning at Ace Woolen Co., Rockland, Conn.

**W. D. Gee,** overseer of spinning, has left Lonsdale Co. Berkeley Mills, Ashton, R. I.

**R. E. Gibney,** overseer of dyeing, is leaving Cascade Mill, Oakland, Me., to go to Matson Mill, South Glastonbury, Conn.

**Norman Hamel** is new overseer of dyeing, and **P. Joseph Ricard,** of Fairfield, Me., second hand of dyeing at Winthrop Mills, Winthrop, Me.

**Edward L. Murphy,** formerly with Kennebec Mills of American Woolen Co., is now overseer of finishing at Raritan Mills, Raritan, N. J.

**John Lynch** has been promoted to overseer of finishing for National & Providence Worsted Co., Providence, R. I.

**Harry Leaver,** of Newport, N. H., has been named to succeed **Fred Andrews** as overseer of dyeing at Northfield Mills, Northfield, Vt.

**A. G. Brown** is new dyer at Cowan & Shain, Haverhill, Mass.

**Marcus A. Gross** and **F. H. Gunther,** contributors to TEXTILE WORLD on subjects related to cotton spinning, have been promoted. Mr. Gunther is now superintendent of the cotton division of Merrimack Mfg. Co., Lowell, Mass., and Mr. Gross is overseer of spinning and twisting.

**Jacob K. Frederick, Jr.,** formerly with Textron, Inc., Control Laboratories. Lowell, Mass., has been appointed assistant professor in the newly created department of synthetic textiles at Lowell Textile Institute, Lowell, Mass.

**Fred Levesque** is now with Chicopee Mfg. Co., Chicopee Falls, Mass., as foreman of carding, spinning, spooling, and warping. For the last 12 yr. he has been with Berkshire Fine Spinning Associates, Fall River, Mass.

**Lloyd Pettitt** is overseer of dyeing for William Hollins & Co., Forestdale, R. I. **Joseph E. Emidy,** assistant superintendent, has resigned.

**Richard Bower** has taken charge of dyeing at Worcester Spinning & Finishing Co., Cherry Valley, Mass. He was formerly associated with Continental Mills, Philadelphia, Pa.

**Raymond Bourey** has resigned as overseer of carding at Vermont Textiles, Inc., North Montpelier, Vt.

**C. W. Evans** of Lawrence, Mass. is now overseer of dyeing at Beaver Brook Mills, Collinsville, Mass.

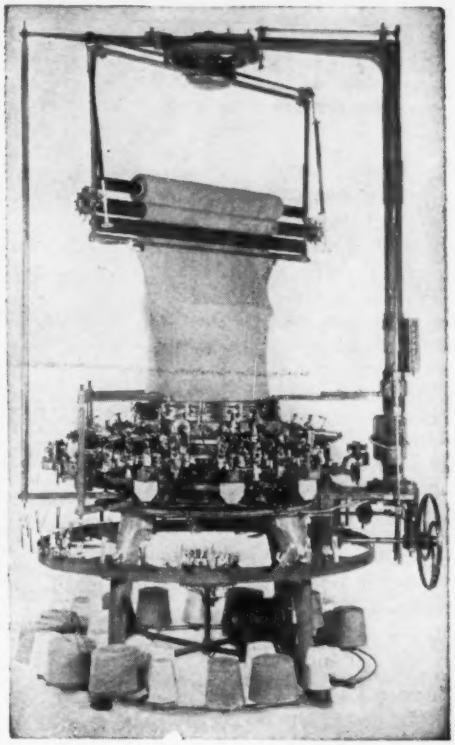
**W. L. Dallas** has resigned as overseer of weaving at Joseph Bancroft & Sons, Reading, Pa.

**P. Marriott,** who has been overseer of weaving at Warwick Mills, West Warwick, R. I., has resigned and has been succeeded by **Norman Buckly.**

**Enoch W. Johnson** is new overseer of carding at Old Bennington Weavers, Bennington, Vt.

**J. C. Ellen, Jr.,** formerly with Dan River Mills, Dan River, Va., is now superintendent of Whitefield Spinning Co., Dalton, Ga.

**E. H. McAngus** has been appointed assistant superintendent of the Dixon plant of American Yarn & Processing Co., Mount Holly, N. C.



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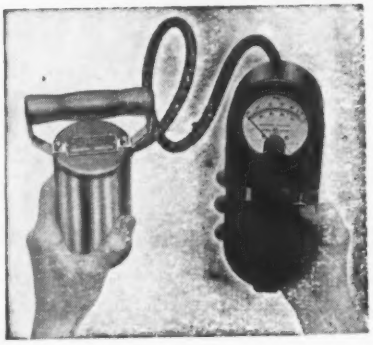

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GREENVILLE, SOUTH CAROLINA



# Obituary

**Clarence Hutton,** 66, member of the editorial staff of TEXTILE WORLD and its antecedent papers from 1906 to 1930, died at Wollaston, Mass., Sept. 23. He was technical editor from 1915 to 1930, which includes the period when the paper won the medal of Associated Business Papers, Inc., for its work in advancing the technique of processing rayon in textile mills. In 1930, he joined Davis & Furber Machine Co., North Andover, Mass., for general publicity work. He retired in 1943. He was a graduate of Lowell Textile Institute and spent several years in teaching and in practical mill work before starting his career in journalism.

**Solon E. Summerfield,** 70, founder and for some years president of Gotham Hosiery Co., New York, died recently in Los Angeles. He had retired as chairman of the board in 1940. He was the first president of the Full-Fashioned Hosiery Manufacturers of America.

**Arthur Smith,** 65, Deep River, Conn., manufacturer of fine laces, died Sept. 3. Mr. Smith came to this country in 1906 from England and managed Rhode Island Lace Works, Barrington, R. I. He later became its president, serving until 1932, when he established his own company, Arthur Smith, Inc., Deep River. He retired a few years ago.

**Robert J. Leonard,** 64, West Falmouth, Mass., formerly president of Holden Leonard Co., Bennington, Vt., died Sept. 2. A native of Boston, Mr. Leonard was graduated from Harvard University in 1906. He retired as president of his company in 1939.

**Walker Lyerly,** 68, president of Elliott Knitting Mills, Hickory, N. C., and a former mayor of that city, died Sept. 6.

**Frank B. Wildman,** 91, founder of Wildman Mfg. Co., Philadelphia, Pa., died recently.

**Alvin Robert (Ad) Burrows,** 53, president of Burrows Textiles, Guelph, Ont., died recently.

**Earl A. Powell, Jr.,** New England sales agent of Universal Winding Co., Providence, R. I., died recently. He joined the company in July, 1939, was in the Army from 1942 to 1945 and in July, 1946 was made New England sales agent. He was the son of Earl A. Powell, general manager of Goodyear-Clearwater Mills, Rockmart, Ga.

**John T. Wood,** 53, superintendent of the textile department at American Enka Corp., Enka, N. C., since the plant opened in 1929, died Sept. 3. A native of Reidsville, S. C., he received his textile engineering degree from Clemson College in 1915 and before going to Enka was connected with Cramer Mills, Cramerton, N. C.

**J. Lewis Godfrey,** 61, secretary-treasurer of Bloomsburg Hosiery Mills, Inc., Germantown, Pa., died in Ocean City, N. J., Sept. 14. He was associated with the company for the past 40 yr.

**Stanley G. Kramer,** 62, treasurer of Brownhill & Kramer, Inc., Philadelphia, Pa., died recently.

**Elliott K. Hale,** 59, for 20 yr. assistant agent of Worumbo Mfg. Co., Lisbon Falls, Me., and later the operator of an independent wool business, died in Boston, Aug. 6. He was a native of Lawrence, Mass.

**B. S. Mills,** 61, former secretary of Judson Mills, Greenville, S. C., died Sept. 4 in Charlotte, N. C.

**Harry K. Lloyd,** 76, staff designer for Monadnock Mills, Claremont, N. H., died Aug. 22. A native of Manchester, England, he was widely known not only as a designer of textiles but also of stained-glass windows.

**Sam E. Ervin, Sr.,** 72, superintendent of Gonzales Cotton Mills, Gonzales, Tex., died recently.

**Pasquale Zompa,** a foreman at Paragon Worsted Mills, Olneyville, R. I. for 27 yr., until retirement, died Aug. 25.

**John H. Miller,** 70, retired superintendent of Dresden Woolen Mills, Dresden, Ohio, died Aug. 8. Mr. Miller had held the position of superintendent in the mills for 42 yr. before his retirement a few years ago.

# STANDARD

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POSITIONS WANTED (full or part-time salaried employment only), ½ above rates.

PROPOSALS, 50 cents a line an insertion.

**INFORMATION:**

BOX NUMBERS care of publication New York, Chicago or San Francisco offices count as 10 words additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

**DISPLAYED RATE:**

The advertising rate is $6.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches —to a page. T.W.

*NEW ADVERTISEMENTS received by 10 A. M. October 22nd will appear in the November issue, subject to limitation of space available*

## MEN WANTED

### POSITIONS OPEN

We can place rayon cloth mill superintendent in Australia.

SUPERINTENDENTS and assistant superintendents woolen yarn mills; three cotton mill superintendents for South; assistant superintendent worsted cloth mill.

OVERSEERS for the following departments: woolen and cotton spinning; woolen and worsted dyeing; worsted drawing and spinning combined; woolen carding; woolen carding and spinning combined; silk weaving, 3rd shift; worsted and woolen sewing and mending; stitching and sewing room; woolen twisting and reeling; cotton weaving, $85. (South); weaving Mawoco plush looms; Tompkins knitting machines; woolen and worsted finishing; worsted carding; cotton skein dyeing.

MASTER MECHANICS; assistant master mechanics; millwrights and machinists; time study engineer, $4,000 (South); cost man $325 month (South);

SECOND HANDS for the following departments: woolen and worsted finishing; worsted gilling; carding; dyeing; worsted weaving; cotton-rayon slashing; dyeing tricot knit goods; cotton weaving, (South).

CHEMIST for screen and roller printing plant, $80-$100 week; third hand cotton weaving; cotton loom fixers for New England, Mid-West and South; assistant designer for shirtings and assistant technicians on silks and rayons, positions in New York City; knitting machine fixers; fixer Mawoco plush looms; Scott & Williams hosiery machine fixer, $500 month and expenses paid (So. Amer.); assistant chemist, $50-$60 week; mechanical draftsmen and designers; sewing machine fixers; jacquard designer and card cutter; slasher tenders.

We invite correspondence (confidential) with mill executives seeking new positions and employers seeking new executives.

**CHARLES P. RAYMOND SERVICE**
Incorporated
**294 Washington St., Boston 8, Mass.**
Over 45 years Confidential Employment Service for Textile Mills

## SUPERINTENDENT NEEDED

### By Internationally Known Corporation

For a new modern weaving mill running on synthetics. Man should have degree in textile engineering, experience and ability in handling people, and have had experience on plain and fancy work.

Preferred age 30-45. Location of plant Georgia. Compensation commensurate with ability and experience. If interested, please reply giving the complete summary of educational and experience qualifications and present salary.

P-1891, Textile World. 330 W. 42nd St., New York 18, N. Y.

## WANTED
## SHODDY SALESMAN

Experienced with good following. Commission basis. Our salesmen know of this ad. Give full details. All replies held strictly condential.

P-1993, Textile World
330 West 42nd Street, New York 18, N. Y.

### POSITIONS VACANT

WANTED—CAPABLE man to become, or to be trained for, assistant superintendent of large screen printing plant. Must have good chemical background, some experience with vat colors, chrome colors, etc. Prefer young man up to 35, with laboratory training. Plant location, Pennsylvania. State qualifications in first letter. P-2200, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED—EXPERIENCED loom fixer to act as foreman of modern SK—6 Crompton & Knowles automatic looms plant. P-1623, Textile World, 330 W. 42nd St., New York 18, N. Y.

FIXER ON full-fashioned hosiery machine wanted. State experience and salary. Steady position in air-conditioned modern plant. National Hosiery Mills, Inc., Indianapolis, Indiana. J. A. Goodman, President. All correspondence strictly confidential.

### POSITIONS WANTED

INDUSTRIAL WASTE. Civil engineer with ideas and sewage treatment experience seeking connection with industry desiring to purify and recover industrial waste. PW-1820, Textile World, 330 W. 42nd St., New York 18, N. Y.

POSITION WANTED as an overseer in a rayon mill, has complete experience in making all kinds of cloth. Knows the textile business from the beginning to the finish. 35 years practical experience on 2 x 1, 4 x 4 and draper looms, and ribbon looms. Can give good reference. PW-1706, Textile World, 330 W. 42nd St., New York 18, N. Y.

(Continued on page 274)

## TRICOT FIXER & FOREMAN

With wide experience on warp knitting machine. Wanted for Tricot mill located California.

P-1528, Textile World
68 Post St., San Francisco 4, Calif.

TEXTILE EQUIPMENT **SALESMAN**
CAPABLE, EXPERIENCED SALESMAN would like to negotiate toward representation for high class manufacturer of Textile Processing or Finishing Machinery or Supply Item—This man has ample experience and sales ability can be shown by past earnings statements. Would consider agency agreement on two or possibly three non-conflicting mill supply items.
SW-2190, Textile World
330 W. 42nd St., New York 18, N. Y.

*Don't forget the*
## BOX NUMBER

When answering the classified advertisements in this magazine don't forget to put the box number on your envelope. It is our only means of identifying the advertisement you are answering.

**Additional Employment and Business Opportunity Advertisements on page 274**

# Here is a page of genuine PROFIT OPPORTUNITIES

- **Whether you are looking for a complete mill or a single machine.**
- **We also offer experienced service in problems of liquidation or transfer of ownership—**

1—72" C&M 2-cylinder Brushing machine
3—Button Breakers 2-48", 1-50"
1—45" Textile Finishing Machine Co. 6-bowl Calenders
1—54' x 60" D&F 2-cylinder iron Shoddy Cards with feeders
1—Lot Numerous Card Parts
1—41½" Knit goods calender stainless steel rolls with motor Reeves drive
1—65" C&M Dewing Machine, motor driven
1—64" P&W Doubling & Rolling-up Machine with clock
1—Set 8 Textile Vertical 48" x 23" Copper Dry Cans
1—Set 20 H.P. Butterworth 108" Dry-cans, dryer
1—18" Copper Basket Extractor
2—26" Tolhurst Extractors, belt driven
1—32" Tolhurst Copper Basket Extractor
3—60" Tolhurst Copper Basket Extractors
1—45" Dobson & Barlow Cotton Feeder
3—40", 42" E&H Flat Folders with take-up stands
1—100" C&M Flat Folder, motor driven with hydraulic lift and roll-up stand
15—40", 80" card and Napper Grinders
1—60" Dye Jigger with stainless steel rolls and self adjusting spreaders
200—40" Draper Model K, 20 Har Dobby Looms
110—45½" reed space Model E Draper Automatic Looms with lacey tops 3 bank stop motions, warm take-up, belt driven
1—48" C&K 4 x 4 box Loom, 25 harness, belt driven, friction clutch
12—54½" C&K Box 20 & 25 Harness Dobby Looms
32—54" R.S. C&K 4 x 1 Auto. Looms, 20 harness double index dobby head
2—74" Heavy Duck Looms, roller top
14—82" C&K 2 x 1 automatic Looms, 8 harness cam motions, motor driven
10—92" C & K, 4 x 1 Automatic Looms, 8 Harness, Cam Motion, Motor Driven
16—92" & 100 C&K 2x2 Box Auto. Looms with Baker 3-mix attachments, 25 harness gem heads
8—100" & 110" C&K 4 x 4 Box Looms, 25 harness, belt driven
1—58" Blake Inspecting, Winding & Measuring Machine
1—64" P&W Measure & Winder

## COMPLETE MILL UNIT

***Profit Opportunities***

* A Six Set Woolen Yarn Mill
* Fourteen set Woolen Yarn Mill
* A Woolen Piece Goods Finishing Plant
* 3400 Spindle Bradford System Worsted Spinning Mill
* Six Loom Weaving Plant for Plastics or Wool — 110" C&K 4 x 4 25 harness Looms, with accessory equipment
* 5208 Spindle Cotton Mill, equipped with 24 Cards and Foster #101 Winder. Priced for quick sale.
* 15,000 Spindle Cotton Mill with reconditioned machinery, including 61 Cards, Auxiliary Equipment and Winders
* 30 Loom Label Weaving Mill
* Complete Engraving Equipment for Textile Printing Cylinders with 15 Pantograph Machines

MANY OTHER UNITS WITH PROFITABLE PRODUCTION POSSIBILITIES. PLEASE OUTLINE YOUR REQUIREMENTS.

SEND FOR COMPLETE DETAILELD LIST OF MACHINERY FOR SALE

3—66" P&W 60 & 100 yd. Measuring Machine, belt driven
3—60" Measuregraph Machines
1—70" King Gerber Tubing Machine with Veeder-Root counter
1—12 Pole Smith Drum Skein Mercerizer
2—240 Spindle J&B 1⅞" gauge Mules
1—392 Spindle Smith 2" Gauge Mule
2—240 Spindle J&B 2" gauge Mules
110—New Leland & Westinghouse ½ and 1 HP 3/60/220 V Heavy Duty Motors. Also various size Rebuilt Motors.
1—61" Woonsocket 2-cylinder Napper, 20 rolls to each cylinder
1—66" Gessner 16 roll single cylinder Napper
1—72" Gessner 18 roll single cylinder Napper
3—80" D&F 20 roll Single and double Acting Nappers
1—30 x 30" Mezzera Wool Opener
1—50" Padder two rubber rolls with barrel expander, motor driven
1—76" Birch Measuring Perch, ceiling type
1—19" Tatham Rag Picker
9—40" Kitson Breaker Pickers, Finisher Pickers, and Single Process Pickers, motorized
1—48" D&F Fearnaught Picker, belt driven
2—48" C.D. Sargent Burr Pickers
1—54" Werner Single Color Printing Machine
1—60" R.B.F. 3 color Printer M. Dr.
6—52", 65½, 66, Voelker and Gessner Single and Double Bed Rotary Cloth Presses
1—44" Quetch one rubber and one brass roll, stainless steel box, expansion pulley, motor driven
3—50 spindle Lindsey-Hyde Adjustable Reels
5—82", 92", 96", and 100" D&F Pin Type Reels, with creel, hack stand, neck reed, warp reel beamer and warp compressor
1—60", C&M Single Blade Plush Shear
2—60" P&W Single Blade Woolen Shears
1—66" Parks & Wilson single Blade Shear
11—65½" P&W 2-blade Shears
1—76" C&M Double Blade Shears
1—80½" P&W Single Blade Shears
1—32" Grand Rapids 2-knife Knit Goods Slitting Machine
1—42" Grand Rapids 20-knife Slitting Machine
1—42" C&M Singer with hood
3—Lowell 2' cylinder Slashers
1—32½" D&F Jack Spool Winder
6—Smith and Furbush Spoolers, 44" drums, 48 ends, 44½" long spools with 10" head, with spool stands
1—60" C&M Single Brush Type Tiger
3—80 Spindle Hopedale band driven twisters 4½" ring, 5½" ga. Belt driven
1—180 spindle Draper Twister, 2½" ring
1—210 spindle Draper Twister, 2" ring
2—8-string Hemmer Wool Washers
2—#90 Univ. Winders
1—80 Spindle Foster Tube Winder
11—100 Sp. Foster Model 12 12A-21A Tube & Cone Winders

*Send us your list of surplus equipment*

## MACHINERY LIQUIDATING COMPANY

*A Dealer of Recognized Reliability*

31-33 West 42nd Street — NEW YORK 18, N. Y.

DOMESTIC — TELEPHONE PEnnsylvania 6-8014 — EXPORT

WAREHOUSES: Paterson, N. J., 9 Godwin St., Tel. SHerwood 2-0373—Hawthorne, N. J., 35 4th Ave., Tel. HAwthorne 7-9661

*SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES*

# MANUFACTURER'S AGENT

**Now representing three companies in the textile and wire industries selling heavy machinery and chemicals has some time available and would like to represent one or two additional companies in the states of New York, Pennsylvania and New Jersey on a commission basis.**

RA-1114, Textile World
330 W. 42nd St., New York 18, N. Y.

## POSITIONS WANTED

(Continued from page 272)

TEXTILE EXECUTIVE. Young man 36 years of age, complete textile background in worsted industry, from fleece to finished fabric is looking for an opportunity to become associated with a progresive concern. Phil. Textile School graduate, married, one child, presently employed in an executive capacity, desires to make a change where an expanding opportunity is open for an aggressive young man. PW-1908, Textile World, 330 W. 42nd St., New York 18, N. Y.

SUPERINTENDENT OF average size rayon cloth mill, underwear or hosiery mill. 24 years experience on all types of rayon cloth or hosiery. Have ability in taking responsibility and production control. PW-2177, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

TECHNICIAN, TEXTILE school graduate, expert on plush and tapestry looms with 25 years of practical and technical experience, might be available to concern which knows its needs. Interested only in interview with prospective employer. PW-2178, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANT TO contact responsible firms which can offer a man with an engineering education and broad experience in textile development, manufacturing and engineering a permanent connection with full executive duties and responsibilities and freedom of initiative. PW-2179, Textile World, 330 W. 42nd St., New York 18, N. Y.

## SELLING OPPORTUNITY WANTED

F. H. TCHELEBI Firma—P. O. B.: 225, Aleppo, Syria. Export—Import—Agencies—Specializing in Textile and Textile Machinery invites your correspondence.

## WANTED

ANYTHING within reason that is wanted in the field served by Textile World can be quickly located through bringing it to the attention of thousands of men whose interest is assured because this is the business paper they read.

## FINISHING SERVICE WANTED

**Contact with plant having suitable equipment for special slack mercerising of 58" heavy Cotton Sateen for approximately 15% shrinkage warp and filling, in 20% caustic soda, to be followed by washing and impregnation with magnesium chloride. Drying at low temperature.**

CWA-1558, Textile World
520 North Michigan Ave., Chicago 11, Ill.

# PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL
*Registered Patent Attorneys*
Patent and Trade-Mark Practice before U. S. Patent Office.
Validity and Infringement Investigations and Opinions.
Booklet and form "Evidence of Conception" forwarded upon request.
Suite 448, 815-15th St., N.W., Washington 5, D. C.

HAROLD K. MARTIN
*Patent and Trade-Mark Attorney*
Patents — Trade-Marks
Patentability, Infringement and Validity Searches and Opinions.
891 National Press Bldg., Washington, D. C.

## WANTED
## Narrow Fabric
# ELASTIC-MILL

**Must have sufficient steam facilies for dyeing and finishing.**

**Will consider outright purchase or participation with present management. Latter preferred since technical knowledge is wanted.**

B. O. 1723 Textile World
330 W. 42nd St., New York 18, N. Y.

# INDUSTRIAL TEXTILE APPRAISERS

**Appraisals made of industrial machinery and equipment by qualified textile engineers for insurance, accounting, financial and taxation purposes.**

***Your correspondence invited.***

**ROYAL LOOM EXCHANGE**
*(Est. 1922)*
**Passaic, New Jersey**

**FOR LEASE**
## MILL BUILDINGS

**up to 50,000 sq. ft. Modern Dye House. 300 HP Process Steam Boilers. 200 HP Water-power. Abundant soft process water. Sprinklers, Light, Heat. Ideal for Weaving, Dyeing & Finishing Plant or, Machine Shop.**

**PAUL M. BROOMFIELD**
**Carolina — Rhode Island**

**WANTED**
## SMALL MILL
**with regular and jacquard looms**

**Equipped to manufacture fancy and exclusive drapery cloths. Eastern seaboard preferred. Production about 5,000 yards weekly.**

CW-2080, Textile World
330 West 42nd Street, New York 18, N. Y.

## JAPANESE SILK—GRADE D

**With U. S. Testing Co. Certificate, 10 Bales — Original Packing — 1350 lbs. Rock Bottom Price.**

**SERVITJE & MATA**
**S. de R. L., P. O. Box 1310, Mexico, D. F.**

# CASH PAID

**For Capital Stock or Assets of**
TEXTILE PLANT
# • WANTED

***By large financially powerful diversified organization wishing to add another enterprise to present holdings.***

***Existing Personnel Normally Retained***

**Box 1222**
**1474 B'way, N. Y. 18, N. Y.**

# WANTED

**WE BUY — WE SELL — WE TRADE**

CHEMICALS
PHARMACEUTICALS
SOLVENTS • PIGMENTS
WAXES • BY-PRODUCTS
WASTES • RESIDUES
DYES

*Other materials and supplies*

**CHEMICAL SERVICE CORPORATION**
**80A Beaver Street, New York City 5, N. Y.**
**HAnover 2-6970**

# DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

**NEW ENGLAND PRODUCTS CO.**
**91 Oliver St. — Boston, Mass.**

# YARNS WANTED

**Wanted to purchase surplus yarns of all types — cotton, rayon, acetate, nylon, silk, wool, spuns, and blends.**

W-947, Textile World
330 West 42nd St., New York 18, N. Y.

**WANTED**
**Anywhere**
# GOING PLANT
**Large or Small**
**By INDIVIDUAL**

• Rayon Broathcloth • Tricot
• Hosiery • Cash Available

***Reply to***
**MITCHEL**
**Drake Hotel, Hollywood, Calif.**

**Equipment Wanted Advertising on page 282**

Telephone
ARmory 4-6540

"Consolidated"

TEXTILE
DIVISION

# PRODUCTS COMPANY, INC.

33-41 Bergen St.,

PATERSON 2, N. J.

October, 1947

GENTLEMEN:

We are pleased to bring to your attention the following Plants and Equipment which are available for immediate delivery.

1—Complete Spinning, Dyeing and Finishing
1—Complete Rayon automatic Weaving Plant.
Woolen Plant
1—Complete Knitting unit for fine Woolen Fabrics. (Excellent condition)
1—Complete Dye House (with new stainless steel equipment)

*Also, a number of Complete Plants for every phase of the Textile Industry.*

14—New Whitin 40" Cards, 12" coilers.
3—D & F 3-cyl. 60" x 48" Iron Cards.
1—D & F 3-cyl. All Iron 48" x 48" Card.
2—Proctor & Schwartz Sample Cards.
1—D & F 60" x 60" Metal Breaker Cyl.
2—Worsted Cards, 60" x 60", Iron Cyl.
3—D & F Mules, 288 & 375 spindles.
10—Whitin Twisters, 208 sp, 3¼" gau, 2½" ring.
6—Haskell-Dawes Horizontal Twisters.
4—D & F Woolen Frames, 192 sp, 4½" gau.
5—Saco-Lowell Worsted Spinners, 288 sp.
4—Saco-Lowell Spinners,
204 sp. 3" gau.
20—Saco-Lowell & H & B Drawing Frames, 4 x 6 deliveries, 12" coilers.
2—Collins Trap Worsted Twisters.
2—Prince-Smith Twisters, 180 spindles
1—Hunter Heavy Duty Wool Opener.
1—Barber-Colman Warp Tying Machine.
60—Draper D 76" looms, gem heads.
5—Draper x 40" Looms, with motors.
50—Draper x 60" Looms, with motors.
15—C & K 72", 76" Jacquard Looms.
36—C & K 72" Silk Looms.
16—C & K 78" automatic Looms.
25—C & K auto. 92" blanket looms.
17—Stafford Worsted Looms, 72", 82".
1—Morrison 60" 3-roll Calendar.
1—2-Roll 120" Calendar.
NEW Tubers, Beamers, Batchers.

1—Buhlman 60-arm dyeing Machine.
1—P & S 2-truck Skein Dryer.
2—K & W Raw Stock Dyers.
1—Sargent 3-Bowl Scourer.
1—Hussong Dye Kettle.
1—Tolhurst 60" Under-slung Extractor.
2—V. V. 65" S. S. Dye Jiggs.
1—Franklin Dyeing Machine.
2—Obermaier 500# Package Dyers.
1—Smith-Drum Skein Dyer, 60 reels.
1—Complete Pantagraph Engraving Unit.
5—Copper Cans, 30" x 30", (narrow fabric work.)
NEW Stainless Steel Dye Becks.
NEW Stainless Steel Dry Cans.
1—P & S 90" Airlay Dryer.
1—Birch Bros. Cloth Dryer.
1—Proctor & Schwartz Wool Dryer.
1—R. B. & F. 5-color 42" Print Machine.
1—4-color 60" Print Machine.
3—Copper Rollers, 31½" cir, 46" face.
4—Copper Steam Jacketed Kettles.
1—Waldron 3-color Printer.
1—R. B. & F. Single Color 48" Printer.
1—New Laboratory Print Machine. (suitable for ribbon printing.)
3—Screen Print Tables.
4—N. E. Butt 36-carrier Rubber Hose Braiding Machines.
20—NEW 24 & 32 Carrier Braiders.

*Very Truly yours,*

*Consolidated Products Company, Inc.*

P.S. Send us your listings of idle machinery. We buy and sell from a single item to a complete plant.

# SEARCHLIGHT SECTION

## EXCELLENT FINISHING EQUIPMENT

1—W&J Tenter Frame, 40' x 50" width.
1—Textile Tenter Frame, 50' x 72" width.
1—Set 40 Dry Cans, 105" width, 23" dia., Vertical Stack.
1—Set 17 Dry Cans, 50" width, 23" dia.
2—Van Vlaanderen Button Breakers, 50".
15—Hope Pantograph Engraving Machines, 50".
1—P&W Semi-Decater, 45" width, complete.
1—Natl. Loop Dryer. 27' long, 10' high, 86" wide.
1—3 Roll Butterworth Calender, 50" width, 15 HP Motor.
3—Rope Squeezers, Rubber & Iron Rolls, 18" wide.
1—Stainless Steel-lined Dye Kettle, 60" x 48" x 50".
1—Set Iron Squeezers, 2 Rolls, 74" long.
1—Gessner Press, 68" width.
1—Woonsocket 90" Napper, 36 Rolls.
2—Woonsocket 84" Nappers, 36 Rolls.
2—Roy Napper Grinders.
1—Rice, Barton, Fales 3 Color Print Machine, 45" width and extra 60" Cylinder.
1—Woonsocket Shearing Machines, 66" width.

## COMPLETE MILLS

### COTTON

1—15,000 spindle spinning & weaving
1— 6,696 spindle spinning & weaving
1— 5,000 spindle spinning
1— 3,985 spindle spinning

### WORSTED AND WOOLEN

1— 600 spindle worsted spinning
1— 1,000 spindle worsted spinning
1— 6,000 spindle worsted spinning and weaving
1— 600 spindle woolen spinning

### PRINTING, DYEING & FINISHING

1—Complete Print Mill, 2 Machines
1—Jigg Dye Plant
1—Jigg & Box Dye Plant.

## CARDING, SPINNING & WEAVING

30—H&B Cotton Cards, 40".
2—Sets Davis & Furber 3 Cylinder 48 x 48 Woolen Cards.

## NEW TUBERS, MEASURING, INSPECTING AND DOUBLING MACHINES

### WEAVING & KNITTING

1—Knit Jersey Mill, 5 Machines.
1—Hosiery Mill for Men's and Women's Hosiery.
1—Rayon Weaving Plant, 20 C&K 4 x 1 Looms.

### SPINNING

60—F&K 203/4" Gauge, 208 spindles.
10—Whitin 2½" Ring, 4" Gauge, 224 spindles.
19—84 spindle Fletcher Duplex Doublers.
10—70 spindle Fletcher Twisters, 4-Atwood 5B Doublers, 100 sp.
1—Abbott Winder, 160 spindles, 10" Gauge.

### LOOMS

4—60" Draper Model X.
180—40" Hopedale Looms.
36—Draper 60" Modified D, 69½".
100—Draper Model E, 40" width.
4—C&K 4 x 1 Auto. 92", M. D.


REMEMBER

Republic Textile

EQUIPMENT COMPANY

40 WORTH STREET NEW YORK CITY

*Purchase and Sale of Used Machinery*

REFINANCING • APPRAISALS • PURCHASE • SALE • LIQUIDATION OF MILL PROPERTIES



## FOR SALE

1—Hermans 4 cyl. Shear, 58" wide
4—60" vertical type raw stock dryer feeds
2—Foster Mod. 12, 100 sp. Cone Winders
1—Clark 36" Mixing Picker
1—Schofield Rag Picker, cyl. 18" x 30"
1—J. Hunter 8 string Cloth Washer
6—Halton 2600 hook Jacquards
2—Spencer Automatic Oilers
1—L. & G. 16 sp. Cop Winder from skeins
1—4 bowl wool scouring unit
2—Foster Mod. 101 Coners, Motor Driven
Universal No. 50 and 90 Winders—Rebuilt
1—Universal No. 180 Superconer
2—Altemus 6" Drum Spoolers
1—Universal 6C Head
13—C. & K 92", 4 x 4 box, 25 harness, H.W. Looms, equal geared.
2—Altemus Long Chain Beamers
2—Altemus Warpers, Pinless
1—D. & F. 92" Pinless Warper
1—P. & W. 66" Measuring, Rolling & Doubling Machine
1—Windle 72" Fold. & Meas. Machines
1—Smith-Drum Mercerizing Range, 24 Arms
1—K. & B. Full Decater, 72"
2—Royal 600 hook Card Cutters
1—L & G Chenille Cutter
1—S.F. Yarn Sizer & Dry Cams
2—P & W 66", Plush Shears
1—P & W Mod. "B" Double Cloth Shear
1—Seargent Stock Dryer
1—Gessner 66" Jumbo Cloth Press
1—Voelker 65½" Double Bed Press
1—E & H Flat Yard Folder, 58"
1—Woonsocket 80", 20 roll D A Napper
1—Fletcher 60" Underneath Motor Driven Extractor
1—Logemann Screw Baling Press, Motor driven, down stroke 250 lb. bales
1—P. & S. 60" Feed Picker
1—C. & M. 60" Power Perch, Measuring & Rolling-up Machine
1—Sipp Motor Driven Silk Warper
1—Complete Wool Carbonizer Unit

Disposition of Machinery is our business. Your listings will have our closest attention

**FRANK W. WHEELER CO.**

1837 E. Ruan St. Philadelphia 24, Pa.

PHONES: Jefferson 5-4771—4772



## L. J. McCaffrey & Son, Inc.

FOR SALE

### MOTORS

2—2 H.P. Motors, G.E.—2—3 H.P. Motors, G.E. 1200 R.P.M.—550 V.—60 cycle—3 phase.

### BOBBINS

300,250—Automatic Loom Bobbins—7¾".
50,000—Worsted Spinning Bobbins—7" x 1¼" base. Slotted.
16,000—Worsted Spinning Bobbins—8¾".

### SPINNING RINGS & HOLDERS

600—2⅛" #2 Rail Set Flange Rings.
550—2⅛" Vertical Rings.
2907—3" Vertical Twister Rings.
500—2-9/16" #2 Rev. Rings—with Plate Holders.
2500—2-¾" C.I. Holders for 2⅛" Vertical Rings.

### HEDDLE FRAMES

1,500—Frames for 12½" Heddles: 40"—44½"—48½".
5,350—Frames for 12" Heddles: 62"—64"—66"—67½"—68"—70½"—71"—77½".
1,690—Frames for 14" Heddles: 71"—80"—81"—86".
125,000—18" Flat Steel Heddles.
5000—Worsted Spindles, 20⅛" o.a.—17" Blade x 7/16" Dia.
5000—Worsted Spinning Tubes & Whorls 1" Dia.
500—Fibre Roving Cans 10" x 36".

P. O. BOX 495 PAWTUCKET, R. I.



## COMPRESSORS
## Vacuum Pumps

New & Guaranteed Rebuilts
Stationary & Portable

Low Pressure Compressors for Air Moistening

**AMERICAN AIR COMPRESSOR CORP.**

North Bergen, New Jersey

N. Y. Phone Ch 4-7665. N. J. Phone Union 5-4848



## HOSIERY MACHINES

*used and rebuilt*

KNITTERS—RIBBERS—LOOPERS—
CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS

JOS. BRESANI
N. W. Cor. Hancock & Somerset Streets
Phila. 33, Pa.



1—P. & S. Dryer—10 Fans & Motors—Revolving Sticks.
2—48" Motor driven Extractors with balancers.
1—New 60" Tuber & Measuring Machine.
1—New 60" Beaming Machine.

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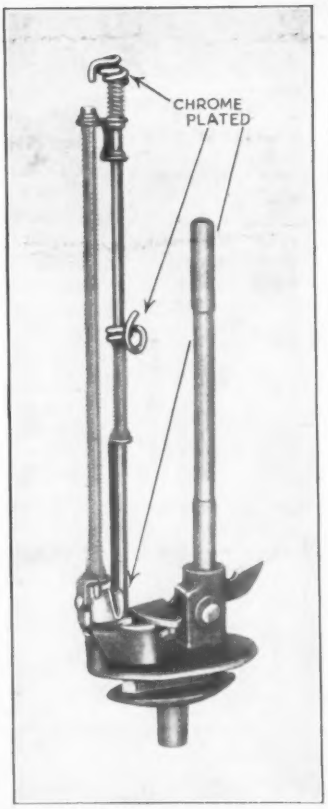


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# INDEX TO ADVERTISERS

An * indicates additional data is in the 1946/47 Pre-Filed Textile Catalog and Textile World Yearbook


*Abbott Machine Co.....16, 82
Aberfoyle Mfg. Co.....32
*Acme Knitting Mach. & Needle Co.....265
Aldon Spinning Mills.....263
Alemite Div. Stewart-Warner Corp.....148
Allen Bradley Mfg. Co.....Inside Back Cover
*Allis-Chalmers Mfg. Co..7, 24, 25
*Aluminum Co. of America..62, 63
American Crayon Co.....260
American Cyanamid Co. Industrial Chem. Div.....138
American Gas Ass'n.....54
American Lumber & Treating Co.....255
*American Monorail Co.....42
*American Paper Tube Co.....204
American Steel & Wire Co...83
American Thread Co.....266
American Viscose Corp.....231
American Woolen Co.....267
American Yarn & Processing Co.....268
*Arkansas Co., Inc.....215
Armour & Co.....22, 221
*Armstrong Cork Co.....157
*Armstrong Mach. Co.....286
*Ashworth Bros., Inc.....40
Atlantic Rayon Corp.....228
*Atlas Electric Devices Co.....168

Bailey, Frank.....268
Baldwin-Duckworth Div. of Chain Belt Co.....88
*Barber-Colman Co.....58
Barnes Textile Associates, Inc 258
*Blickman, Inc. S.....247
Boger & Crawford.....146
*Booth Co., Benjamin.....222
Bright Light Reflector Co.....178
Brinton Co.....267
*Brown Instrument Co.....79
Bunting Brass & Bronze.....85
Burkart-Schier Chem. Co.....258
*Butterworth & Sons Co. H. W. 124

Calco Chemical Co.....81
*Caldwell Co., W. E.....259
*Cameron Machine Co.....269
*Carbide & Carbon Chem. Corp. 6
Carnegie-Illinois Steel Corp.....83
*Carter Traveler Co. Div. A. B. Carter, Inc.....251
Celanese Corp. of America.....207
Century Electric Co.....93
Chicago Watchclock Corp.....226
Cleveland Tramrail Div. The Cleveland Crane & Eng'g. Co. 86
Clinton Industries, Inc.....166
Clipper Belt Lacer Co.....257
Cloverleaf Freeland Corp.....200
Coffing Hoist Co.....214
*Cole Mfg. Co., R. D.....216
Colgate - Palmolive - Peet.....213
Columbia Steel Co.....83
Commercial Credit Co.....172
Commonwealth Color & Chemical Co.....250
Connor Eng'g. Corp., W. B...185
*Cooper Alloy Fdry. Co.....23
*Crabb & Co., Wm.....230
*Crane Co.....74
*Crane Mfg. Co.....265
*Crawford Mfg. Co.....190
*Crompton & Knowles Loom Works.....12
Crouse - Hinds Co.....67

Dana Warp Mills.....263
Darnell Corp., Ltd.....196
*Dary Ring Traveler Co.....236
*Davis & Furber Machine.....261
*Dayton Rubber Mfg. Co...33, 159
*Diagraph-Bradley Stencil Mach. Co.....262
Diamond Alkali Co. Standard Silicate Div.....271
Dietert Co., Harry W.....248
Dixie Mercerizing Co.....153
Dodge Mfg. Corp.....78
*Dommerich & Co., L. F.....36
*Draper Corporation.....1
Drew & Co., Inc., E. F.....227
Duesberg-Bosson of America Inc.....155
*Du Pont de Nemours & Co., Duponol Dept.....235
Electrochemicals Dept.....51
Rayon Multiple Fibers....10, 11

Edmos Products Corp.....210
Electric Storage Battery Co....134
Emerson App. Co.....222
Employers Mutals of Wausau 31
Eriez Mfg. Co.....179

Fairbanks - Morse.....70
Falls Yarn Mills.....220
Felters Co., The.....57
Firestone Industrial Prod. Co..130
*Fleishel Lumber Co.....257
Formica Insulation Co.....19
*Foster Machine Co.....56
*Fuller Brush Co.....163

Gates Rubber Co., The.....84
Gaylord Container Corp.....144
General Chemical Co.....132
General Dyestuffs Corp.....35
General Equipment Co.....89
*Gessner Co., David.....259
Glidden Co., The.....60, 61
Globe Dye Works.....176
Goodrich Chemical Co., B. F..14
Gulf Oil Corp.,—Gulf Refining Co.....49

Harte Co., John J.....264
Hayes Industries, Inc.....169
*H & B American Mach. Co. 26, 27
Heineman Corp., O.....256
Henry, Andrew K.....214
Hermann, Roy Dr.....230
*Houghton & Co., E. F.....167
Howard Bros. Mfg. Co.....38
*Hubbard Spool Co.....249
Hunter Machine Co. Jas.....205
*Huyck & Sons, F. C.....254
Hyatt Bearings Div.—General Motors Corps.....94
Hyde Park Mills, Inc.....224
Hyster Co.....47

Industrial Air Co.....161
*Industrial Dryer Corp.....222
Industrial Heat Eng'g Co.....220
International Bus. Mach. Corp. 191
*International Salt Co., Inc.....46
*Iselin Co., William.....175
*Ives Co., L. T.....269

Jenkins Bros.....37
*Jenkins Sons, M. W.....184
*Jiffy Textile Marker Co.....264
Johnson & Hardt Co.....230

Kahn & Feldman, Inc.....264
Kastrinsky Mach. Co. Inc.....269
*Kenyon & Son, D. R.....271
Kidde & Company Inc. Walter 189
Kidde Mfg. Co. Inc.....203
Kohorn & Co., Ltd., Oscar....187

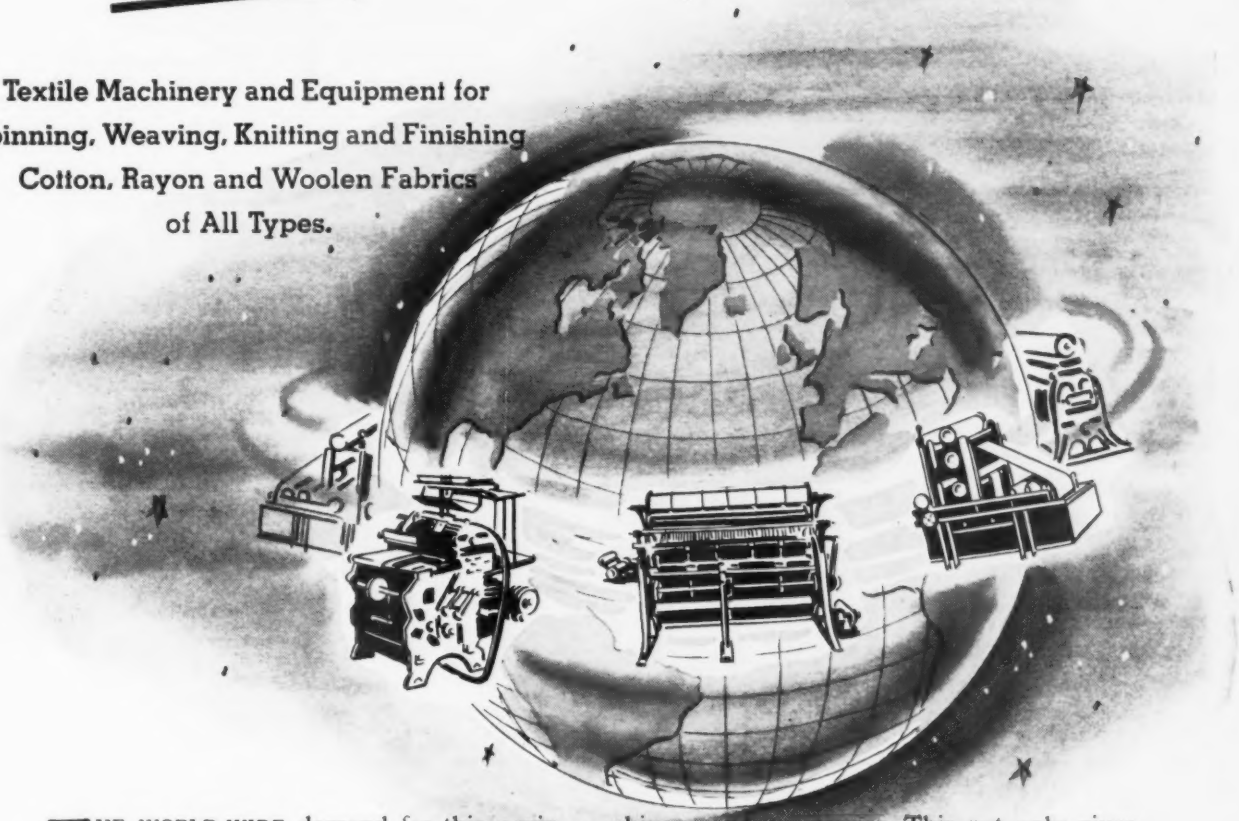
Lacy, Atherton, Wilson & Davis.....257
Lambeth Rope Corp.....235
*Lane & Bros., Inc., W. T....267
Laurel Soap Mfg. Co.....261
Lazenby & Co., F. A.....228
Leatex Chemical Co.....228
*Leighton Machine Co.....206
Lestershire Spool & Mfg. Co...183
Lewellen Mfg. Co.....247
*Link - Belt Co.....43
*Loper Co., Ralph E.....266
*Lowell Shuttle Co.....194
Lukens Steel Co.....20, 180
Lukenweld, Inc., Div. of Lukens Steel Co.....180
Lunkenheimer Co.....192

Magnetic Engineering & Mfg. Co.,.....242
Marquette Metal Prod. Co.....75
McPherson Co., The.....270
Meadows Mfg. Co.....34


*(Continued on page 286)*

# Textile Machinery Wanted for Export!

**Textile Machinery and Equipment for Spinning, Weaving, Knitting and Finishing Cotton, Rayon and Woolen Fabrics of All Types.**



THE WORLD-WIDE demand for this equipment is well-known to everyone but you may have had some difficulty with quotas, allocations, exchange shortages and import licenses, etc. We are experts in this field and can be of real assistance to you in eliminating such problems.

Through our extensive textile export experience and well-established network of foreign representatives, we are receiving a continuous flow of well-detailed inquiries for textile machinery and accessories. This not only gives you an immediate market but an opportunity to establish a constant flow of new business.

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**GRamercy 5-5002**

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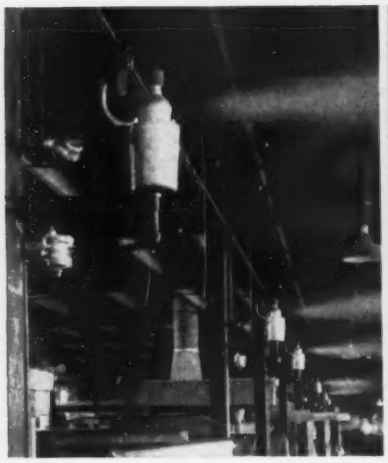

## Check Your RELATIVE HUMIDITY

YOU ARE LOSING MONEY if the relative humidity in your plant is below what it should be. You can't maintain top production when textile fibres are dry and brittle. You lose in other ways, too. Employee efficiency is lowered, susceptibility to colds increases. Paperboard containers dry out, crack at the creases. Static electricity sparks create a fire or explosion hazard if volatile liquids are present.

More and more mills are eliminating these losses with Armstrong Steam Humidifiers. Completely automatic, trouble-free, they can be hooked into existing steam and electrical systems with no building alterations. Operating costs are less than a penny per day per 1000 cu. ft. Dry steam is dispersed directly into the atmosphere—there's nothing comparable on the market. ASK FOR BULLETIN 177 giving complete data. ARMSTRONG MACHINE WORKS, 872 Maple St., Three Rivers, Mich.

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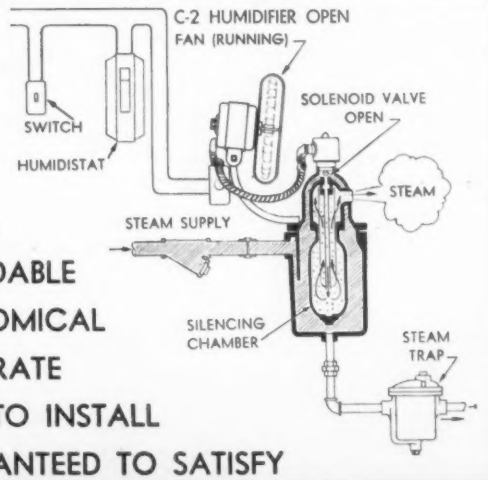
| Industry and Process | Relative Humidity Per Cent |
|---|---|
| Textile—Cotton | |
| Combing | 60 to 65 |
| Weaving | 85 |
| Textile—Rayon | |
| Spinning | 85 |
| Textile—Silk | |
| Dressing | 60 to 65 |
| Throwing | 65 to 70 |
| Textile—Wool | |
| Carding | 65 to 70 |
| Weaving | 50 to 55 |
| Textile—Testing Laboratory | 65 |

## HERE'S THE ANSWER WHEN AIR IS TOO DRY

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Easy to Install and Maintain . . . Automatic . . . Economical

*Made by the Makers of Armstrong Steam Traps*


*(Continued from page 284)*


Medley System, Inc. ..... 142
*Meinhard, Greeff & Co. ..... 258
Merrow Machine Co. ..... 265
*Milton Machine Works ..... 256
Mobilift Corp. ..... 89
Moisture Register Co. ..... 270
*Monsanto Chemical Co. ..... 171
Montgomery Co. ..... 266
*Mt. Hope Machy Co. ..... 245
*Murdock & Geb Co. ..... 259
Murray Mfg. Co., D. J. ..... 259

*National Aniline Div. Allied Chemical & Dye Corp. ..... 41
*Nat. Drying Machy. Co. ..... 255
National Ind. Conference Board Inc. ..... 253
National Lead Co. ..... 68
National Plastics, Inc. ..... 212
National Plastics Prod. Co. ..... 53
*National Ring Trav. Co. ..... 263
National Tube Co. ..... 83
New & Co. F. H. McKee ..... 260
*New Departure Div. General Motors ..... 15
N. Y. & N. J. Lub. Co. ..... 197
Nopco Chem. Co. ..... 233
Norfolk & Western Ry. ..... 211

*Oakite Products, Inc. ..... 271
*Onyx Oil & Chemical Co. ..... 186
Oronite Chem. Co. ..... 237

*Pabst Sales Co. ..... 246
Parks—Cramer Co. ..... 244
Penick & Ford Co., Ltd. ..... 271
Pennsylvania Salt Mfg. Co. ..... 229
Perfecting Service Co. ..... 245
*Perkins & Son, Inc., B. F. ..... 48
Permutit Co. ..... 195
Philadelphia Quartz Co. ..... 220
Pike Co., E. W. ..... 232
*Pittsburgh Corning Corp. ..... 59
Platt Bros. (Sales) Ltd. ..... 50
Powell Co., Wm., The ..... 66
Prince George Hotel ..... 270
*Prince—Smith & Stells ..... 96
*Proctor & Schwartz, Inc. ..... Inside Front Cover 201
Progressive Mach. Co. ..... 226

Railway Express Agency, Air Express Div. ..... 170
Railway Supply & Mfg. Co. ..... 208
Red Ray Mfg. Co. ..... 254
Regenery Co. ..... 193
*Reiner Inc., Robert ..... 199
Reliance Electric & Eng'g Co. ..... 97
Republic Steel Corp. ..... 55
Reynolds Metals Co. ..... 177
*Rhoads & Sons, J. E. ..... 5
Richmond Oil Soap, & Chem. Co. ..... 226
*Riggs & Lombard, Inc. ..... 218
Robison Processing Co. ..... 212
Rome Soap Mfg. Co. ..... 271
Ryerson & Son, Inc., J. T. ..... 126

*Saco Lowell Shops ..... 8
*Sandoz Chemical Works ..... 17
*Sarco Co. ..... 39
*Scholler Bros., Inc. ..... 261
Sinclair Refining Co. ..... 73
Sirrine Co., J. E. ..... 268
Smith-Drum & Co. ..... 238b, 238c
*Solvay Sales Corp. ..... 136
*Sonneborn Sons, Inc., L. ..... 219
*Sonoco Products Co. ..... 151
Square D Co. ..... 128
*Standard-Coosa-Thatcher Co. ..... 13
*Standard Fabricators Inc. ..... 30
Standard Pressed Steel ..... 238a, 252
*Standard Soap Co. of Camden ..... 216
Stanley Works, The ..... 198
Stearns Magnetic Mfg. Co. ..... 234
Steelcote Mfg. Co. ..... 253
*Stein-Hall ..... 223
*Sterling Ring Trav. Co. ..... 218
*Stern-Morgenthau & Co. Inc. ..... 285
Stonhard Co. ..... 238d
Sun Oil Co. ..... 122
*Sylvania Div. Amer. Viscose Corp. ..... 241
Sylvania Electric Prod. Co. 28, 29

Taber Instrument Corp. ..... 253
Taylor Instrument Cos. ..... 44, 45
*Tennant Co., G. H. ..... 174
Tennessee Coal & Iron Co. ..... 83
Tennessee - Eastman Corp. ..... 100
*Terrell Co., Inc. ..... 262
Texas Co. ..... 2
Textile Banking Co. ..... 209
Textile Machine Wks. ..... 91, 92
Tide Water Associated Oil Co. 87
*Tompkins Bros. Co. ..... 269
Torrington Co., The ..... 71, 72

*Union Pacific R. R. ..... 52
U. S. Gutta Percha Paint Co. ..... 9
*U. S. Ring Traveler Co. ..... 240
*U. S. Steel Corp. ..... 83
U. S. Steel Supply Co. ..... 95
U. S. Testing Co. ..... 188
United Yarn Prod. Co. ..... 263
*Universal Winding Co. ..... 18, 164

Vanderbilt Co., R. T. ..... 239
Van Doorne Mach. Co. R. A. ..... 173
*Van Vlaanderen Mach. Co. ..... 99
*Veeder - Root, Inc. ..... Back Cover
Victor Ring Traveler Co. ..... 80

Wallerstein Co., Inc. ..... 140
*Walton Laboratories, Inc. ..... 202
*Walton & Lonsbury ..... 284
Warwick Chem. Co. ..... 225
*Westinghouse Electric Corp. 64, Lamp Division ..... 65, 69
*Whitin Machine Works ..... 21
Whitinsville Spinning Ring Co. 263
Whitman & Co., Wm. ..... 249
Whitney Chain & Mfg. Co. ..... 98
Wiesner-Rapp Co. Inc. ..... 76, 77
Wildman Mfg. Co. ..... 243
Wiley & Sons, Inc., John ..... 251
*Wolf & Co., Jaques ..... 217
Wolstenholme Co., The ..... 263
*Worthington Pump & Machy Co. ..... 90


■ ■ ■

**PROFESSIONAL SERVICES**


Barnes Textile Asso. ..... 258
Harte, John J. ..... 264
Herrmann, Roy Dr. ..... 230
Lacy, Atherton, Wilson & Davis ..... 257
Lancaster, Alwine & Rommel ..... 274
Loper & Co., R. E. ..... 266
McPherson Co. ..... 270
Martin, Harold K. ..... 274
Sirrine Co., J. E. ..... 268


## SEARCHLIGHT SECTION

*(Classified Advertising)*


EMPLOYMENT
POSITIONS VACANT ..... 272
Selling Opp. Offered ..... 272
POSITIONS WANTED ..... 272, 274
Selling Opp. Wanted ..... 274
EMPLOYMENT SERVICES ..... 272
SPECIAL SERVICES
Contract Work ..... 274
BUSINESS OPPORTUNITIES
Offered ..... 274
PROPERTY
For Sale ..... 274
For Rent ..... 274
Wanted ..... 274
EQUIPMENT
(Used or Surplus New)
Wanted ..... 282
For Sale ..... 273-283
WANTED
Equipment ..... 282
Miscellaneous ..... 274
ADVERTISERS INDEX
American Air Compressor Corp. ..... 276
Batey, Thomas E. ..... 283
Bay State Textile Co. ..... 278, 281
Blank, Moe ..... 282
Blank Co., Inc., A & M ..... 276
Bresani, Joseph ..... 276
Broomfield, Paul M. ..... 274
Cadgene Machinery Co. ..... 278
Careful Co., Samuel ..... 282
Chemical Service Corp. ..... 274
Collins & Aikman Corp. ..... 278
Commonwealth Engr. Co. of Ohio, The 282
Consolidated Products Co., Inc. ..... 275
Darien Corp. ..... 280
Gaines Textile Machinery Co. ..... 280
Gates, Walter S. ..... 283
Gordon & Co., Dave ..... 282
Hartford Rayon Corp., The ..... 280
Ireland & Vlee ..... 283
Kent, William R. ..... 283
Lincoln, Jr., H. B. ..... 280
McCaffrey & Son, L. J. ..... 276
McCloskey, Inc., John J. ..... 280
McDowell Associates, Inc. ..... 277
Machinery Liquidating Co. ..... 273
Miller Machinery Co. ..... 283
Morgan Dyeing & Bleaching Co. ..... 280
New England Products Co. ..... 274
New Orleans Machinery Co. ..... 280
Pirkle Machinery Co., Inc., J. C. ..... 282
Rabinowitz & Sons, William ..... 279
Raymond Service Inc., Charles P. ..... 272
Republic Textile Equipment Co. ..... 276
Saval & Sons ..... 282
Schwartz Machinery Corp., Sam ..... 278
Seckler, Eugene ..... 280
Speizman Co., Inc., Morris ..... 283
Solomon & Co., Inc., Robert ..... 280
Stave & Zisblatt ..... 280
Stephenson, Harry ..... 280
Textile Auxiliaries ..... 278
Triangle Processing Machinery Co., Inc. 283
Utica Wadding Co., Inc. ..... 282
Wheeler Co., Frank W. ..... 276

# QUALITY MOTOR CONTROLS

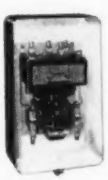
## *that improve textile mill efficiency*

Allen-Bradley offers motor controls for every department of your mill . . . all standard units but each designed for the most efficient control of a specific machine. An Allen-Bradley control engineer will gladly cooperate with you on any textile machine starting or control problem.

Allen-Bradley Co., 120 W. Greenfield Ave., Milwaukee 4, Wis.

### ACROSS-THE-LINE STARTERS

AUTOMATIC



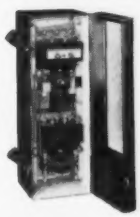
Bulletin 709 Across-the-line Starter for starting of machines with automatic controls or push buttons. Reliable overload relays. Enclosures for every service.

MANUAL

Bulletin 609 Across-the-line Starter for manual starting of machines which require no remote controls from push buttons or other automatic pilot devices.

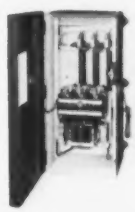
### VELVET-SMOOTH STARTERS

AUTOMATIC



Bulletin 740 Resistance Starters provide automatic jerk-free starting. They bring the machines to full speed so smoothly that thread breakage is eliminated.

MANUAL

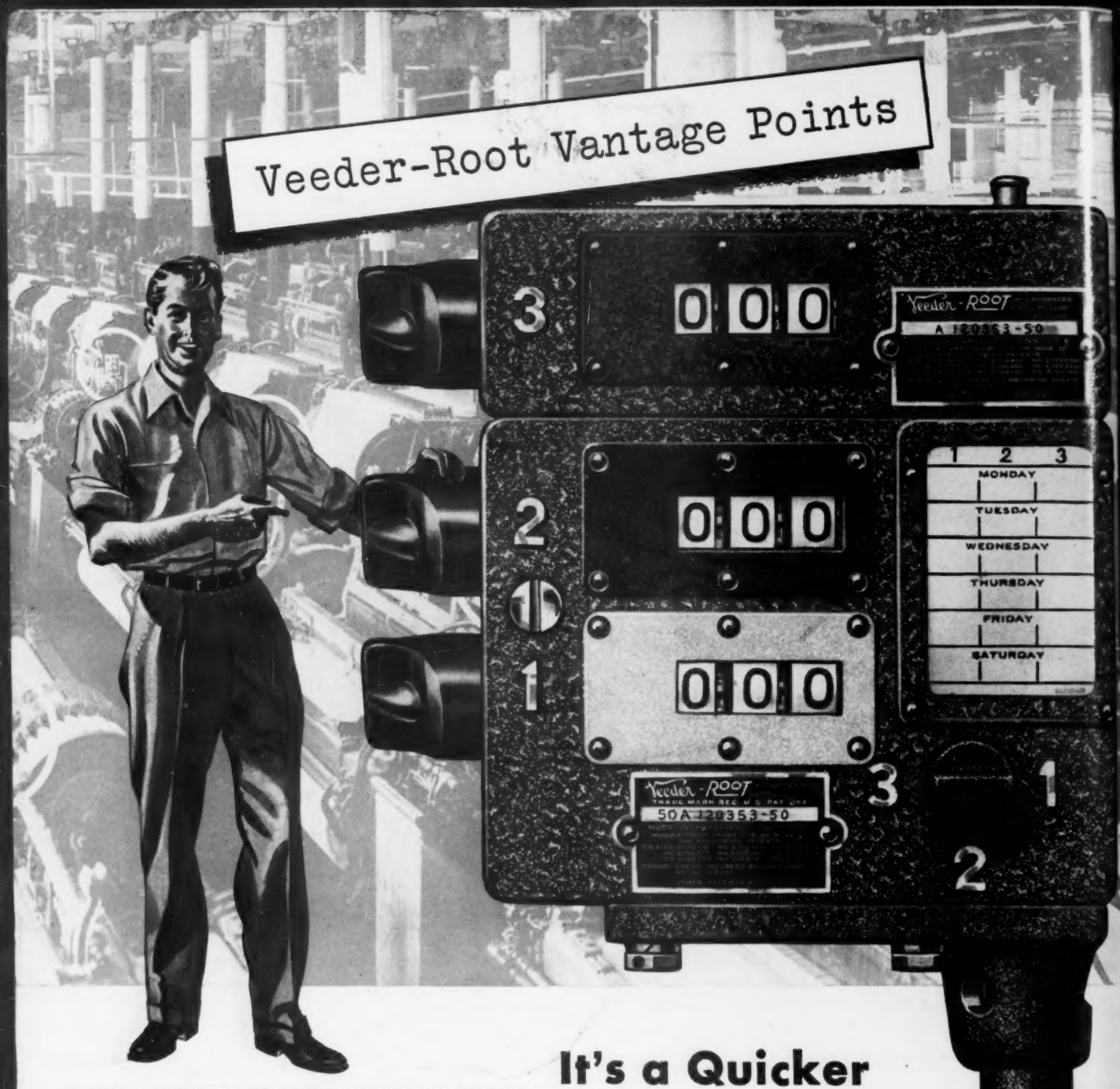


Bulletin 640 Resistance Type Starters provide stepless acceleration for machinery which must be started with velvet smoothness to prevent thread breakage.

# ALLEN-BRADLEY

QUALITY

**MOTOR CONTROLS FOR TEXTILE MILLS**



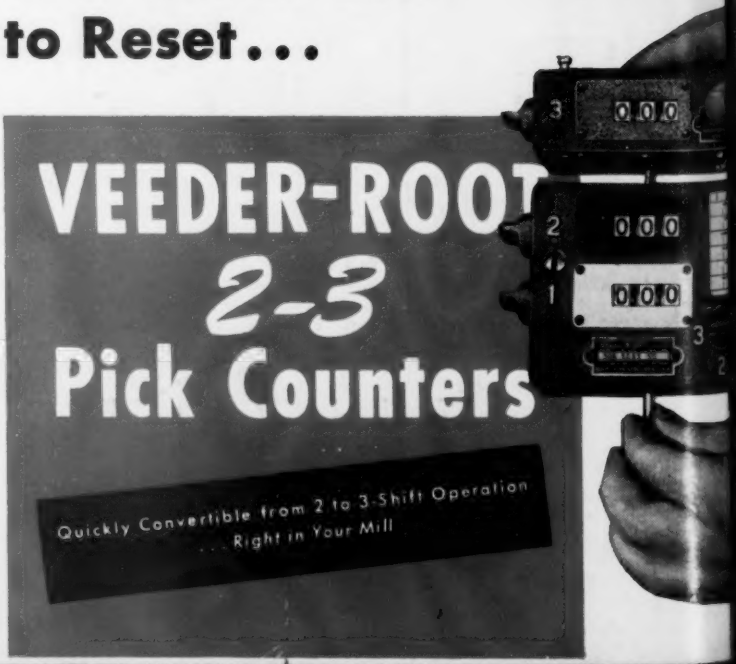

**STREAMLINED PLASTIC RESET KNOBS** make it easy for weavers to reset Veeder-Root 2-3 Pick Counters *in double-quick time.* All they have to do is turn the knob. No pull-out required. And no sharp edges to hurt the hands. That's one of the reasons so many weavers vote for Veeder-Root 2-3 Pick Counters.

And here are other reasons why weavers and mill management men *both* vote for Veeder-Root:

QUICK CONVERTIBILITY right in the mill.
COMPRESSION CLAMPS cut installation cost.
BOLD VISIBILITY speeds up reading time.
ALL METAL PARTS TREATED AGAINST CORROSION.
YALE LOCK on front door.
NEW WHEELS give strength plus low weight.
STEEL MOUNTING INSERTS for extra strength against vibration.
COMPLETE INSTALLATION, no extras to buy.

Let the Veeder-Root Field Engineer show you how much all these *Veeder-Root Vantage Points* can save you. Just call the nearest office.

## It's a Quicker and Easier Job to Reset...




**VEEDER-ROOT INCORPORATED**
**HARTFORD 2, CONN. - GREENVILLE, S. C.**

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*In England:* Veeder-Root Ltd., Dickinson Works, 20 Purley Way, Croydon, Surrey.